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A Lecture
ON
CANCER OF THE UTERUS.

Delivered at the Cancer Hospital, Brompton,

BY CHARLES RYALL, F.R.C.S. ENG.,
SURGEON TO THE CANCER HOSPITAL, BOLINGBROKE HOSPITAL, ETC.

GENTLEMEN,—Those organs peculiar to women, by which the race is generated and nurtured, pay an oppressive tax to the diseases of nature. All kinds of maladies, functional or organic, temporary or permanent, inflammatory or neoplastic, levy their toll on them; but the commonest and deadliest of all is cancer. It is the disease for which womankind has the greatest fear. Round it certain deplorable myths have gathered that prevent them from recognising its onset, or if a suspicion does arise in their minds they keep it too long a secret, hoping that the worst may not prove true. Their attitude, too, is tinged with fatalism, and few know or believe that the disease is curable. Of all forms that contribute to the gigantic death roll of malignant disease, cancer of the uterus far surpasses all others in number. It claims many more victims than cancer of the breast in the female, three times as many victims as cancer of the tongue and mouth in the male, and thrice as many as cancer of the rectum in both sexes. Shortly after the second decade of life it causes more deaths than cancer in any other part of the body, and not only keeps the lead but does so with increasing pace up to the age of 65; in fact, of all cases of malignant disease in women 1 in 5 is due to uterine cancer, and amongst deaths from diseases of every kind, malignant or otherwise, occurring in the female between the ages of 35 and 55 about 1 in 20 is due to cancer of the uterus.

AGE OF OCCURRENCE.

The disease may occur at any age, though it is comparatively rare below the age of 30. We have had in this hospital a case in a girl aged 14. I have operated on one 23 years old. In the earlier ages the disease is almost invariably of rapid progress, but I have a patient alive and well on whom I operated seven years ago when she was only 26. It most commonly occurs between the ages of 40 and 55, and would seem to be a disease more of the aging than of the aged uterus.

A great deal has been made of the increased incidence at the time of the menopause, and it is interesting to examine this question carefully. If we construct a percentage curve from the most recent mortality returns of the Registrar-General for England and Wales we shall find that the greatest number of deaths occur in the quinquennial age period 50–55, from which we might gather that it is strongly post-climacteric in incidence (see Chart). This differs very considerably from Leitch's statistics of 1639 cases of uterine cancer at the Middlesex Hospital. He gives the highest percentage as occurring during the age period 40–45, but he calculated from the clinical histories of each case the approximate age at which the disease began—which is the important point, and he excluded cases of cancer of the body. Still the difference is marked. Mr. O. T. Dinnick, our medical registrar, has kindly gone over the clinical histories of the last 760 cases occurring in the Cancer Hospital, and a curve drawn from his figures almost exactly coincides with that of Leitch. The full ten-years interval therefore between the summits of the curves indicating age at onset and age at death may be partially accounted for by the effect of operative treatment, by the exclusion or inclusion of cancer of the body (which has a later period of maximum incidence), and by the fact that amongst those deaths throughout the country certified as uterine cancer many must really be due to errors of diagnosis. There is another point worth noticing. In Leitch's statistics the largest number of cases were shown to occur before the onset of the menopause. By taking each year separately Mr. Dinnick finds that amongst the Cancer Hospital cases the largest number have occurred at 42.

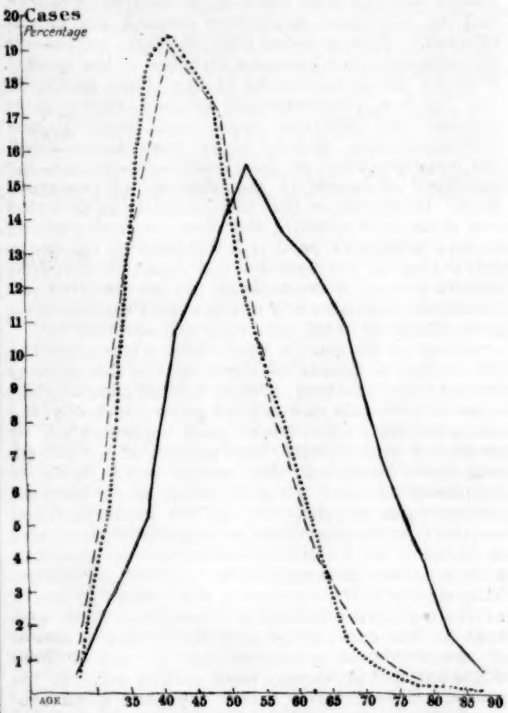

Chart to show the various percentages of cancer of the uterus occurring at the different quinquennial age periods. A. Black uninterrupted line constructed from the Registrar-General's returns for England and Wales, 1911. This gives the ages at death from cancer both of cervix and body. B. Dotted line constructed from Leitch's statistics on 1639 cases of cancer of the cervix calculated approximately to age at onset of the disease. C. Broken line constructed similarly from 760 Cancer Hospital cases collected by Mr. Dinnick.

FACTORS IN FREQUENCY OF UTERINE CANCER.

Thus, contrary to the usually accepted ideas, cancer of the uterus is more a pre-climacteric than a post-climacteric disease, and this point has an important practical application. It is essentially a disease of motherhood. The relative numbers of cases occurring in women who have borne children and in those who have not are far greater than the proportion of parous to nulliparous in the general population. Most of us, in a shadowy way perhaps, regard maternity as being a predisposing factor in the causation of disease. In the case of the tongue we know that cancer is practically invariably preceded by some fissure,

ulcer, or other lesion. In the case of the uterus there is always the liability of cervical laceration or some other trouble associated with pregnancy that leaves behind a lesion in which cancer may start. On the other hand, uterine cancer is exceedingly rare among the lower animals which are certainly more prolific than mankind. The fact that in America it is rare amongst negroes in comparison with the white races is another point to consider before we jump to the conclusion that the accidents of parturition are prime factors in determining the frequency of uterine cancer.

It is evident from what we know of the biological distribution of malignant disease that various species of animals have each their besetting form of cancer. For example, in mice it is the milk glands that are most liable to be the seat of cancer, and in rats the connective tissues are chiefly affected. It may quite well be that comparable phenomena obtain amongst divisions of the species. Without the complication of any other factor we may have a preponderance of one cancer over another in different races, and heredity may accentuate this. Murray in his remarkable breeding experiments very markedly accentuated the incidence of cancer in the offspring of cancerous mice. Of course, in that case an artificial selection was made such as could not occur naturally among human beings, but still it is permissible for one to think that as amongst human racial subdivisions certain normal characteristics are accentuated and perpetuated, so also to a minor extent the besetting form of cancer of the race may be accounted for.

As far as we can go, then, in accounting for the prevalence of cancer of the uterus in this country we have three factors: first, it may be naturally the one to which this race is most prone; secondly, the characteristic may have been accentuated by heredity; and thirdly, the trauma of childbirth may have rendered the cervix more liable to neoplastic change. It is 20 times more frequent amongst the married than in the unmarried, and yet the normal proportion of married to unmarried is about 5 to 1. Its incidence is overwhelming among parous as compared to nulliparous women. This applies only to cancer of the cervix; in cancer of the body the disparity is negligible. Kelly says that he has come across only three cases of cancer of the cervix in nulliparæ, and in one of these dilatation had previously been carried out. At the present time I have under my care a case of cervical cancer in an unmarried woman who also had some gynæcological operation performed some years ago indicating a history of trauma.

With regard to cancer of the body it is still a common belief with many that it occurs most frequently in single women, but there are absolutely no grounds for such an idea; as a matter of fact, at least two out of every three cases occur in women who have borne children. The average age at which it occurs is considerably later than in the case of cancer of the cervix, and in comparison with the latter it is rare—probably not more than 5 per cent. of all cases. There is reason to believe that it is more frequent amongst the well-to-do than among the very poor.

THE COURSE OF THE DISEASE.

Cancer of the cervix uteri may commence in the vaginal portion or in the cervical canal; in the former the growth is an epithelioma, in the latter an adenocarcinoma. Sarcoma is very rare. The cancer breaks down early, giving rise to serous discharge. Bleeding may take place from the raw surface spontaneously or as the result of slight trauma. The disease does not long remain local, but tends to spread through the vaginal portion and downwards beneath the mucous membrane of the vagina, upwards into the cervical canal, and outwards into the loose cellular tissue of the parametrium and that lying beside the upper part of the vagina. Still extending outwards it spreads to the lymphatic glands on the wall of the pelvis, affecting the group of glands lying in the angle between the external and internal iliac arteries, and frequently the obturator gland near the obturator foramen. It may spread thence to the next group of glands lying externally to the common iliac artery and make its way to the lateral aortic glands above. It is the lymphatic spread that is the most important consideration from the surgical point of view.

The organs most commonly implicated with metastatic deposits are the liver and then the lungs, but as such a condition is comparatively rare and occurs only late in the disease one need not take it into consideration in discussing radical treatment. According to Paget, during the examination of 244 cases post mortem the liver was involved in 14·3 per cent. and in Leitch's 915 cases in 13·5 per cent. According to the latter, also, in more than half the number of all cases the disease never spreads beyond the brim of the pelvis. That, however, does not mean that such a large number are amenable to surgical treatment; far from it. There is the local spread so painfully manifest in late cases that would often be beyond all surgical measures.

The local conditions due to the growth are important. The growth itself in the disintegration and septic state may give rise to infection of the endometrium, producing pyometra, salpingitis, or salpingoövaritis, or, eating its way through the posterior fornix of the vagina, it may cause a localised peritonitis. In both cases there is an attempt, generally successful, to wall off this inflammatory focus, but the end result is that the pelvic structures become so extensively matted together and to the pelvic walls that separation, to say nothing of practical extirpation, is often out of the question. This is a late condition. We have to bear in mind, however, that in early stages of the disease an infective process may play a part, perhaps the sole part, in causing the fixation of the organ, and therefore cases must not be considered inoperable on the grounds of fixation alone.

The spread of malignant disease into the parametrium, the uterosacral ligaments, and the broad ligaments causes the serious fixation of the uterus, and when this happens it is a question for each to settle as to whether operation is likely to be effective or not. By the involvement of the parametrium the ureters at last become surrounded by growth, and by its contraction they are constricted, the ureters dilate, back pressure is exerted on the kidneys with consequent hydronephrosis, the excretory substance of the kidney is destroyed, and finally a painless death from a convulsionless uræmia results. The ureters are found involved in three-fourths of all post-mortem cases, and this is the common cause of death. Sometimes an ascending infection causes pyonephrosis, but this is relatively uncommon. Extensive involvement of the vagina is an almost invariable occurrence in the late stages, and by extension of the process into the bladder and into the rectum vesicovaginal and rectovaginal fistulæ may be produced.

Fortunately, the disease does not give rise to early infection of the glands, nor does it until the later stages cause the distressing local conditions just described, but tends to remain for some time a more or less localised disease, and thereby lies the hope of surgery; but if surgery is to be effective one must bear in mind in performing an operation the particular tissue zones that are liable to be involved.

THE IMPORTANCE OF EARLY DIAGNOSIS.

Only one case in ten that I come across is suitable for operative treatment; in the remaining 90 per cent. the disease has spread into and involved the surrounding parts, causing fixation of the uterus, and is too far advanced for any hope of cure by operation. Some surgeons meet with a higher percentage of operable cases, but nevertheless the fact remains that the large majority come to the surgeon too late for radical cure. It is a most depressing and appalling state of affairs, and we must inquire into the cause and make our best endeavour too combat it. In the majority of cases the patient is herself to blame in not seeking medical advice, but there are far too many others who, having sought advice, are treated for certain symptoms alone, and are allowed to drift on for an inexcusable length of time before any proper examination is made. The patient is apt to attach too much importance to the absence of pain, and many practitioners are inclined to look upon pain and cachexia as the signs to be waited for. From the surgeon's point of view both of these are worthless, save for the fact that they practically always indicate that the disease has been present for a very long time.

Cancer seldom causes pain until it has fairly well established itself. Even more so with cachexia, for it is not until the growth undergoes septic infection or disorganisation or seriously affects the function of some vital organ that cachexia and emaciation make their appearance. Pain and cachexia may be symptoms of cancer, but they are symptoms of advanced cancer and not of the disease in its early stages. In point of fact, some cases die without pain, cachexia, or emaciation ever having been present.

When the patient first notices anything amiss—it may be discharge or irregular hæmorrhage—it is rarely that she seeks immediate medical service. In the majority of cases her reticence is due to her modesty, and who can blame her for her ignorance of the serious import of such signs? Perhaps she consults some friend or "wise woman"; the opinion she generally gets is that it is "change of life," and she is comforted with the conclusion that it is something natural and to be expected, and that everything will come right of itself in the course of time. I wonder how many lives are sacrificed annually to this myth of the change of life?

It is difficult to know how to deal with the problem, as habit, tradition, and superstition are obstinate foes to tackle and exterminate. The proposal that we should endeavour to educate the public with regard to the early symptoms of the disease would be combated by many who hold strongly to the opinion that the necessary publicity would cause very grievous alarm. Personally I am in favour of spreading the light with regard to the symptoms of the disease. It is not a scare policy, and at any rate it is better to have a cautious fear of possibilities than a fatal, though complacent, ignorance. Here ignorance is not bliss. It is by education, and education alone, that patients can be induced to realise the possibility of the gravity of their ailment and the necessity of early treatment.

Someone has suggested that all women at the time of the menopause ought to be carefully examined for uterine cancer. Such a prospecting for cancer is of course quite impracticable and would probably be useless if it were not; one can only wait for the occurrence of some sign or symptom suspicious of its presence. See what Wynter was able to accomplish in Prussia. Disheartened by the small percentage of cases seeking early treatment, he some years ago started a campaign of enlightenment. With the help of the medical profession and the lay press, and by the distribution of pamphlets to nurses and midwives, his campaign of education was carried out with most satisfactory results, and the number of patients seeking treatment before the disease was too far advanced was very considerably increased. Here in our country sporadic attempts in the same direction have been made from time to time. We lack the disciplined opportunities of Germany, but even if there were a concerted action all over the country, as I should wish to see, it must be continual and systematic, for even the words of a philosopher or a prophet, listened to to-day, are forgotten to-morrow.

EARLY SIGNS.

Early diagnosis is of vital importance to the success of radical treatment and possible cure. The symptoms or signs to which I attach most importance in the early stages of the disease are: (*a*) bleeding, (*b*) discharge, and (*c*) bleeding on examination. The bleeding may take the form of increased flow at the menstrual periods. More usually it is of a more pronounced character, taking place irregularly and at fitful intervals between the periods. In quantity it may vary from a mere spotting to a more profuse flow. It may occur without any very definite cause, perhaps being associated with the straining of micturition or defæcation, or coming on after any slight trauma. A slight hæmorrhage after coitus is a very common and very suspicious symptom. Irregular shows occurring after the menopause ought to be regarded as grave warnings. Any unusual hæmorrhage, no matter how slight, occurring between the periods or after the menopause is a symptom that demands immediate investigation. It should never be temporised with. The cause should be put beyond all doubt at once. The discharge may be leucorrhœal in character at first, but it invariably assumes the serous or watery type, being the exudations from the ulcerated surface. It may be comparatively clear or stained with blood, and equally with the bleeding just described it is a symptom of great importance, the investigation of which must never be deferred.

The normal cervix will stand a good deal of trauma and does not bleed on digital examination, but in cases of malignant disease of the cervix or the lower part of the endocervix, even very little pressure of the finger or finger-nail will cause hæmorrhage. Such bleeding occurring on examination should always be regarded as definite indication of malignant disease unless the microscope gives another reading of the lesion. Tuberculous ulceration of the cervix is very rare indeed. The common "cervical erosion" is usually quite different to the touch, and this is the chief lesion with which cancer may be confounded. Should digital examination fail to discover a polypus, a pathological condition which may produce the symptoms and signs already mentioned, or fail to

reveal any definite growth, then an examination must be carried out under an anæsthetic, when a breaking down or suspicious focus may be detected in the canal or suspicious material may be removed from the cavity. In any case a piece should be removed for microscopic examination, and in respect to the curettings the whole, and not a single fragment, should be preserved.

OPERATIVE TREATMENT.

Having determined the diagnosis of malignant disease, we shall have to decide as to whether the case is suitable or unsuitable for operation. Generally speaking, these cases are unfit for operation where there is marked invasion of the broad ligaments or of the utero-sacral ligaments or fixation of the uterus. I lay stress on the fixation of the cervix apart from fixation of the body, as very often where the former is free and the latter is fixed the fixation may be entirely due to inflammatory causes. It is worse than useless to endeavour to do hysterectomy with the knife if one has to cut through malignant tissue, as such operative interference may serve only to stimulate the progress of the disease. It is not a case of making the disease more virulent, but of enlarging the growing surface of the cancer.

I do not intend to enter fully into the details of operative treatment, but will content myself with saying that all the procedures must take into account the directions in which the disease tends to spread, and we must remove not only the definitely suspicious tissues, but a fair margin beyond. Thus, it is absolutely essential to allow a wide margin of removal of the vaginal wall, to take away as much as possible of the parametrium, and along with the latter the lymphatic-bearing tissues and lymph glands of the pelvic wall. When the abdomen is opened the extent of the disease is examined for, we determine the possibility or otherwise of freeing the uterus from the bladder, and we assure ourselves as to the absence of infiltration of the ureters where they enter the bladder. I do not think it is possible to carry out a routine operation in all cases. The extent of the operation depends greatly on the patient's condition, and some, owing to feeble health, are unable to stand prolonged operation. In such cases one may be forced to remove the uterus and its surroundings only, and to risk leaving the pelvic glands.

One thing that must be rigorously guarded against in operation is the risk of cancer infection, and by that I mean the implantation of cancer cells on a fresh surface, or the production of a wider surface of growth in any mass of such cells. I have no doubt that in many cases of local recurrence in the field of operation after vaginal hysterectomy such recurrence was due to laceration of the active growth with vulsella forceps. The pelvic cellular tissue is very vulnerable to such cancer infection, and I have seen an enormous cancerous mass arising out of the pelvis while the patient was convalescing in hospital after an imperfect hysterectomy, and I am inclined to believe that swabbing of the pelvic wound with hot water lessens the risk of such infection.

THE TREATMENT OF INOPERABLE CASES.

Now with regard to the inoperable cases, have we no means at our disposal for minimising their distressing condition? Recently there has been an extensive use of radium in the treatment of inoperable cancer. All over the world it is being used, and many eagerly rush into print with the reports of cases apparently cured. Like many surgeons, I have seen some startling results, at least on the primary lesion, just as I have seen some more or less disastrous failures, but I feel that there would be no great loss to radium-therapy if we all kept silent about it for two or three years. Personally I should advise a patient in such a condition to try radium. It may or may not have a beneficial action on the cervical cancer, but I do not think that anyone will claim that it could influence the deposits in the lymphatic glands on the pelvic wall, and under these circumstances it is worth while considering the operative removal of affected glands.

Some older-fashioned methods of treatment in inoperable cancers are not to be despised. The caustic and the cautery have still their uses in limiting the hæmorrhage, pain, and foul discharge. But of all the modes of treatment of inoperable cancer of the uterus the one I have found most useful consists in cutting off the blood-supply of the part. In the first case on which I resolved to attempt this, in 1905, I ligatured both internal iliac arteries, but ever since then I have ligatured both ovarian arteries as well. There are no untoward after-effects. As a modification of this operation I now advocate removal of infected glands where possible and where they are limited to the pelvis, so that in those cases suitable for radium treatment the primary growth in the uterus alone remains to be dealt with. The operation is comparatively free from risk, and combined with subsequent cauterisation of the growth constitutes the most efficient treatment we have at our disposal for cases of advanced cancer of the uterus. Great relief is obtained in practically every case, the hæmorrhage is checked, the pain is diminished, and the discharge is reduced to an insignificant quantity. Marked prolongation of life does not follow upon the operation, but certainly it allows patients to live in comparative comfort, and it alleviates the distress of their last days.

THE NATURE OF PERITONEAL ADHESIONS.[1]

BY ARTHUR KEITH, M.D. ABERD., F.R.S.,
CONSERVATOR OF MUSEUM AND HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEDICAL men are accustomed to regard the process which underlies the healing of wounds as one evolved for the special needs of the individual after birth. Inquiry will show, however, that a process which is similar to that underlying the healing of wounds takes place during the normal development of the embryo. The best example to prove the truth of this statement is seen in the formation of the upper lip. Its two embryological clefts are lined at first by stratified epithelium. The first step in healing is the gradual apposition and adhesion of the epithelial surfaces. The epithelial bridge thus formed across the cleft is invaded by the adjoining mesoblastic tissue, the temporaay epiblastic bridge being thus replaced by a permanent mesoblastic union. The process is not unlike that seen in wounds healed by first intention. In wounds the inflammatory exudate serves as the "healing bridge"; in developmental union this "bridge" is formed by the fused epithelial surfaces.

[1] Demonstration at the Royal College of Surgeons of England on the occasion of the visit of the Association of Clinical Surgeons of North America, July 27th, 1914.

Failure of the developmental process of healing results in harelip. Cleft palate and hypospadias also represent unhealed evolutionary wounds. In such cases the surgeon has to step in and mend an open developmental wound. We see then that in her normal evolutionary processes Nature does use that primary property of living tissue—the power to heal.

In the same way we are apt to regard peritoneal and pleuritic adhesions as the result of pathological processes. We shall see that such adhesions are formed during normal development, and that Nature has used the processes which underlie their formation as a means for securing her evolutionary ends, particularly in the case of the human body. I bring before you, to illustrate my statement, preparations made from a young elephant to show the developmental formation of pleuritic adhesions. Everywhere the surface of the elephant's lung is bound to the chest wall by a loose meshwork of connective tissue formed from the pleura.

Although anatomists have known for some years that such adhesions are formed during the normal development of the elephant—they were described by Professor William Wright in lectures at this College some years ago—they have not discovered their functional significance. Possibly an investigation of the peculiar respiratory mechanism of the elephant would supply an explanation. At the present moment I merely wish you to note that Nature has employed in this instance an apparently pathological process to accomplish a physiological end.

I now pass to the main subject of my demonstration—the formation of peritoneal adhesions—particularly during the normal development of the human fœtus. I show you, in the first place, a dissection of a full-time child which was born with the intestines lying within a large sac formed by the coverings of the umbilical cord. The mesentery attaching the intestinal tract to the posterior wall of the abdomen is long and shaped liked a fan—as in an early stage of development of the human fœtus. As in the young fœtus, the mesenteric attachment is confined to the middle dorsal line. The process which leads to the adhesion of the duodenum, of the ascending and descending colon, and of the root of the mesentery to the posterior wall of the abdomen, has failed to take place; all of those parts have remained free, as in lower mammals and as in the early human embryo. Surgeons are well aware that children are occasionally born apparently normal in all respects, save that the intestinal tract is attached as in the specimen just described—children in which the normal process of mesenteric adhesion has failed to take place. We require a name to designate the failure in the process of intestinal fixation—an "azygosis" of the mesentery. Whether or not you agree to the name which my colleague Professor Shattock has coined to designate the developmental union of serous surfaces, you must admit, I think, that the process by which the fixation of the human intestine is brought about is very similar to the adhesion which occurs when opposed peritoneal surfaces become inflamed. In fashioning the upper lip and in securing a proper fixation of the abdominal viscera Nature calls to her aid processes which are usually regarded as pathological.

Before comparing the peritoneal adhesions, which are formed in the fœtus during the normal course of development, with the adhesions which result from inflammatory processes after birth, it will be convenient to inquire into the functional significance of intestinal fixation. In the lower primates, taking any species of lemur as a type,[2] the mesentery retains its primitive fixation along the middle line; the condition in the lemur may be described as one of total azygosis. In a higher group of primates, that represented by the ordinary dog-like monkeys of the Old and New Worlds, the process of adhesion or "zygosis" of the mesenteries is already established in two areas: (1) behind the stomach—a "post-gastric area"; and (2) at the root of the mesocolon —a "mesocolic area." A condition of partial mesenteric zygosis is present in ordinary monkeys. In the post-gastric area the head and body of the pancreas and the mesenteric fold in which these parts lie become adherent to the posterior abdominal wall. In the mesocolic area the root of that part of the mesocolon to which the transverse colon and splenic flexure are attached becomes bound to the posterior wall by a process of peritoneal adhesion. The final stage—complete zygosis of the mesenteries—is seen in man and the great anthropoids—the gorilla, chimpanzee, and orang. With each stage in the evolution of mesenteric zygosis we find a collateral change in the animal's posture of body. The great anthropoids are as completely adapted for an orthograde attitude in the trees as man is for the same posture on land. We must regard the condition of mesenteric zygosis as dependent on posture. Yet we should err if we concluded that the abdominal viscera were suspended from the areas of adhesion. It is only when the support of the musculature of the abdominal walls is withdrawn, as in enteroptosis, that the mesenteries become supporting structures. We know that in cases of congenital azygosis in man a volvulus of the whole intestinal tract may occur. We presume, therefore, that zygosis of the mesenteries is designed, not for the suspension of the abdominal contents, but to regulate and restrain their movements within certain limits.

I now proceed to compare the peritoneal adhesions formed in the course of normal development with those which result from inflammatory conditions. One of the specimens already mentioned—the child in which the intestines lay within a congenital umbilical hernia—affords the first point of evidence. Evidently the serous coat of the intestines had been exposed to some form of irritation, for the coils were matted together. The serous coat of the bowel instead of having a thickness of 0·03 mm. measures 0·3 mm., ten times the normal amount. One observes that the surface of this thickened serous coat has the smooth appearance of normal peritoneum to the naked eye; under the microscope the surface is seen to be covered by tessellated endothelium. The increase in thickness appears to be due, not to a proliferation of the surface layer of cells, but of those embedded in the subserous tissue. The cells which show signs of most active division lie beneath the surface stratum.

The second specimen I show is the microscopic section of a peritoneal adhesion which Mr. Joseph E. Adams[3] brought about experimentally by the application of a sterile swab of cotton-wool to the surface of the liver of a rabbit. The swab is

[2] Eleven years ago I published diagrams showing various stages in the evolution of mesenteric adhesion or zygosis (see THE LANCET, March 14th, 1903, p. 712).

[3] See Mr. J. E. Adams's Hunterian Lecture on Peritoneal Adhesions, THE LANCET, March 8th, 1913, p. 663.

enclosed by organised tissue and is adherent to the liver. A section across the swab and an adjacent part of the liver shows that the visceral peritoneum of the liver, less than a centimetre distant from the swab, is covered by the usual layer of tessellated endothelium, but the subserous tissue is cellular and greatly increased in thickness. When the peritoneum is followed from the surface of the liver towards the swab, it is seen gradually to increase in thickness. The increase is due to a proliferation of the elements in the subserous stratum—at least, so I conclude from the fact that the covering endothelium forms an unbroken line which can be traced from the normal area of the liver to the surface of the organised tissue surrounding the swab. The process of adhesion is apparently brought about by a reaction and proliferation on the part of the subserous elements at the site of application of the swab. The inflammatory exudate between the liver and swab forms the bridge into which the cells of the subserous layer proliferate.

The two instances just cited illustrate the formation of inflammatory adhesions. My next preparation is a section across a developmental adhesion—that which normally forms between the ascending colon and the inner wall of the right loin. The section shows that the peritoneum on the anterior or ventral aspect of the colon is normal in thickness and structure. As we trace it outwards on the lateral aspect of the colon the subserous tissue gradually increases in amount, until the tessellated covering layer is separated widely from the surface of the colon and ultimately joins the parietal peritoneum of the loin, in exactly the same way as we saw the visceral coat of the liver pass into the organised covering of the swab. The active elements in bringing about the adhesion lie in the subserous stratum.

The process of zygosis of the peritoneum can be best studied in the mesentery of the descending colon. A section across a human embryo towards the end of the third month of development shows the descending colon in the left loin and its mesentery applied to the posterior wall of the abdomen, but as yet non-adherent. The various steps in the process of adhesion may be studied. If that process were strictly similar to an inflammatory adhesion we should expect an exudate to be thrown out between the mesentery of the colon and the opposed area of parietal peritoneum. No exudate is thrown out. The process of adhesion commences near the mid-dorsal line, in the angle or recess between the mesentery and peritoneal lining of the left loin. At the point of peritoneal reflection there is a formation of subserous tissue, so that the point of reflection is gradually carried outwards until the colon itself is reached and bound directly to the abdominal wall. In this way the mesentery of the descending colon becomes incorporated in the parietal peritoneum on the dorsal wall of the abdomen.

Direct adhesions may also be formed. For instance, the free margins of the great omentum may contract adhesions to the parietal peritoneum in the right or left loins. The gall-bladder may become united to the transverse colon or omentum—the original point of contact being subsequently drawn out into a band. In the case of the mesentery of the descending colon, or of the small intestine, the process of zygosis may not proceed regularly from the base of the mesentery; it may occur at independent points and spread from these until the various islands of contact meet and complete fusion is produced.

As already said, there is no exudate thrown out in the process of developmental zygosis—at least, I have not been able to detect an exudate between serous surfaces on the point of forming an organised adhesion. As in harelip, the surface coverings adhere; the first uniting bridge is epithelial in the case of harelip, endothelial in the case of peritoneal surfaces. The temporary bridge is invaded and replaced by adjacent mesoblastic elements—exactly as in the healing of wounds.

I know of no process in the normal development of the human body which is so irregular in the date of its appearance and so unequal in the extent of its occurrence as this of peritoneal zygosis. There are specimens on the table which show the right colon fixed by peritoneal adhesions to the right loin in the fourth month of development; there are others which show it free as late as the eighth month. In at least two areas the process proceeds after birth—namely, in the attachment of the mesentery of the lower or iliac part of the small bowel to the posterior abdominal wall above the right iliac fossa and in the attachment of the iliac colon to the parietal peritoneum of the left iliac fossa. In the latter area adhesion proceeds in even adult individuals independently of any inflammatory process. The irregularity in the extent of mesenteric zygosis has often been noted. The process may fail completely, giving the condition which may be described as total azygosis. In 1905 Mr. Howard Kelly and Mr. E. Hurdon[4] gave a statistical account of the extent of the adhesion of the mesentery of the ileo-colic part of the intestinal tract in an extensive series of cases. In more than half they found that the process of mesenteric adhesion proceeded so far that the ileo-colic junction was bound directly to the posterior wall in the right iliac region. I agree with Dr. Douglas J. Reid[5] that in nearly 50 per cent. of newly born children the process of mesenteric adhesion reaches so far towards the right iliac fossa that the terminal part of the ileum is directly bound down to the parietal peritoneum, forming the anatomical basis of Lane's band.

I differ from Dr. Reid as regards the origin and nature of the process to which I propose to apply the name of peritoneal zygosis. He is of opinion that pressure alone will bring about the adhesions, that the distended iliac colon of the infant—to take one instance—may cause the adhesion of the parts on which it presses. It may be taken as an axiom that all the contents of the abdomen of the fœtus are subjected to a common pressure—the intra-abdominal pressure. The process of adhesion proceeds from definite points and accomplishes a definite object. No mere mechanical explanation can prove satisfactory. We are dealing with a biological manifestation of not local but of widespread occurrence, one which is dominated by an inherent property of the living cells of the subperitoneal tissue. Zygosis of the peritoneum or of the mesenteries may be regarded as merely a manifestation of growth, but if we so regard it, then we must look on the healing of a wound and the formation of peritoneal or pleural adhesions as also manifestations of growth.

[4] The Vermiform Appendix and its Diseases, 1905.

[5] For Dr. Reid's latest paper and references to former investigations, see Journal of Anatomy and Physiology, 1914, vol. xlviii., p. 432.

In the healing of a wound or in the formation of peritoneal adhesion the stimulus that calls the process of growth into action is bacterial or mechanical in nature, but there are clearly stimuli of another nature. Everyone who has studied the peculiar growth changes of acromegaly, or those which depend on the presence of the testicles, must admit that localised growth or development may be awakened and regulated by stimuli of the nature of hormones. It is in a cause of that kind I would search for the immediate factors regulating the process of peritoneal zygosis.

There is, lastly, the question of the relationship of such adhesions or bands to the condition described as intestinal stasis. If the muscular coats of the intestine are acting normally I cannot conceive that any developmental band I have yet seen could bring about the condition of stasis. They could only cause obstruction when the action of the intestinal musculature is defective. We are conducting in the laboratories of this College now a systematic investigation of the musculature and of the intestinal nerve ganglia, and although our researches have not yet reached that point which justifies dogmatic conclusions, they have proceeded far enough to show that in the majority of the specimens excised on account of stasis the muscular coats and nerve ganglia are not normal in structure.

The main object of my demonstration is to place the subject of peritoneal adhesions—the process of peritoneal zygosis—in its proper perspective. It is not an isolated phenomenon but a widespread biological process, affecting particularly the development of the human peritoneal cavity and that of animals nearly allied to man. A study of fœtal peritoneal adhesions shows us that developmental processes are very closely allied to healing processes. Whatever part these adhesions may take in producing conditions of intestinal obstruction, there cannot be two opinions as to the extent of their occurrence and of their importance from a biologist's point of view.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C.

OSTEO-ARTHRITIS OF THE HIP:

DIAGNOSIS IN ITS EARLY OR PRE-OSTEOPHYTIC STAGES.

BY R. LLEWELLYN J. LLEWELLYN, M.B. LOND.,
SENIOR PHYSICIAN TO THE ROYAL MINERAL WATER HOSPITAL, BATH;
AND
A. BASSETT JONES, M.B. LOND.,
LATE SENIOR SURGEON, CARDIGANSHIRE GENERAL HOSPITAL.

THE immutable character of the changes that ultimately ensue in bone and cartilage in this affection assuredly indicates the desirability of our arriving at a true diagnosis at the earliest period possible. Yet a mere glance at the clinical course of the disorder, as drawn by older and, for that matter, even current writers, reveals a striking disregard on their part of its early or incipient symptoms. Contenting themselves for the most part with a brief allusion to the initial pain and stiffness, they pass without further ado to a delineation of its terminal features as if, forsooth, the morbid process, like Jonah's gourd, had sprung to maturity in a night. An erroneous impression has thus been conveyed and the salient characteristic of the life-history of the disease thereby obscured—viz., its extraordinary slowness of evolution, one measured not so much by years as by decades. Moreover, as the logical outcome of this conception, the early symptoms or phases of the malady have either been overlooked or erroneously attributed to some alien disorder—sciatica, rheumatism, and so forth.

Albeit, clinical observation clearly proves that the state of profound articular disorganisation typical of the affection is only very slowly arrived at, and must inevitably have been preceded by a prolonged period, during which symptoms indicative of the articular site of the disease were slowly unfolding themselves. Indeed, our own experience has convinced us that careful physical examination supplemented by a discriminating analysis of the subjective symptoms will enable us to diagnose the oncoming of an osteo-arthritis even prior to the formation of bony outgrowths.

Early symptoms.—The manifestations are both subjective and objective, but for their detection the same meticulous care must be exercised by us as when searching for the early symptoms and signs of tuberculous hip disease. Collectively they consist of pain (local and referred), tenderness of hip, alterations in attitude and gait, with limitation of mobility.

Subjective phenomena.—Pain being the most prominent we must for its accurate interpretation be thoroughly conversant with the nerve supply of this great articulation. Thus, from the anterior crural a branch runs to the anterior portion of the capsular ligament, the posterior part of this structure being innervated by the sacral plexus and sciatic trunk. The lower and inner part of the capsule is dependent for its supply on the obturator nerve, which also sends a twig to the ligamentum teres.

Site of pain.—Like tuberculous coxitis the pains of osteo-arthritis in this joint may either be localised to the hip region or referred along one or all of the nerve trunks from which the articulation derives branches.

Articular pain.—Quite in the initial stages a feeling of pain, or rather of painful stiffness, is felt in the joint itself. Most often it is experienced deep in the groin when it is presumably located in the anterior part of the capsule. In other instances it is referred to the posterior aspect of the joint near the small trochanter, but more commonly is localised to the region of the great trochanter. At the last-named site the pain is often deep-seated, and is apparently located in the external rotator muscles, which, through the forced eversion that ensues so early in the disease, are probably overstrained. These articular pains, at any rate in the early stages, are not constant. They come and go in erratic fashion, and are accompanied by a sensation of something having intruded between the articular surfaces and so preventing the easy working of the joints. The sudden hitch thus produced gives rise to a stab of pain, and the subject is brought up sharp and walks lame maybe for some hours, but more commonly such attacks are of fleeting duration. These periodic bouts of pain with lameness are very typical of so-called osteo-arthritis, and are, we believe, attributable to incarceration of enlarged villi between the joint surfaces. They occur most often during walking or after a change of position, such as turning in bed; and with the growth and numerical increase of the villi more frequently, and *pari passu* the stiffness and disability become more troublesome.

Local tenderness.—Sensitiveness to palpation of the capsule of the hip is a very common sign, but needs careful examination for its detection. In some it is more easily elicited anteriorly when the finger is pressed deeply into the groin, but in others this feeling of tenderness with increased density and resistance is more readily evoked posteriorly behind the great trochanter. The existence of joint pain and tenderness in this disorder is but too often overlooked; nevertheless, it constitutes strong presumptive evidence of the articular site of the disease, and its localising value far exceeds that attachable to the *referred* pains which may be, and often are, attributable to other and extra-articular causes.

Referred pains.—These at their onset are more often than not dismissed as examples of pure sciatic or crural neuralgia, and passing as being of gouty and rheumatic nature the unhappy victim for years, or even decades, roams from spa to spa in search of relief. That for the time being their pains either spontaneously or under the influence of hydrotherapy and so forth do undergo remission but fosters the belief in their idiopathic neuralgic nature. But carefully analysed it soon transpires that the relief obtained was but short-lived and that their pain and disability swiftly and invariably recurred. The consequences of such belated recognition are but too often irremediable, and we would therefore draw attention to some of the pitfalls which frequently occur in this connexion.

Firstly, we would protest against the unjustifiable assumption that they are invariably projected along the sciatic nerve; some, for example, contrast the pains in osteo-arthritis and tuberculous coxitis in that the pain in the former often runs down the back of the thigh instead of down the front as it does in the latter. Bruce in his recent work on sciatica goes even further, maintaining that most, if not all, cases of sciatica are really examples of osteo-arthritis, claiming, indeed, that the two conditions are one and the same disease masquerading under different names.

Now, while not gainsaying the frequency of sciatic pain in osteo-arthritis of the hip, we would demur strongly against the assumption that it is in any way diagnostic of this affection for the cogent reason that the pains are with equal frequency referred along the anterior crural and obturator trunks. Very commonly, for example, the pain begins at the small trochanter and shoots down the obturator nerve along the inside and front of the thigh to a point at or near the knee. Indeed, in some instances osteo-arthritis of the hip may, like tuberculous coxitis, manifest itself solely by pain referred to the knee. At other times it is more deep-seated, darting through the gluteal muscles and those along the front of the thigh innervated by the anterior crural. Often too, as is so frequently emphasised, it is transmitted along the sciatic down the back of the thigh or may be referred to the peroneal region or through the posterior tibial to the back and inside of the heel. Lastly, it sometimes passes down along the external cutaneous to the skin on the outer side of the thigh constituting the variety known as meralgia paræsthetica. A history of such recurring attacks of sciatic or crural neuralgia extending maybe over years suggests strongly that it is not primary or idiopathic but secondary to hip disorder.

Apart from mere pain various paræsthesiæ, tingling, numbness, and formication are often experienced along these several paths of distribution. Now as regards the diagnostic import of these various pains it cannot, in our opinion, be claimed that any one of them more than the sciatic can be regarded as pathognomonic of osteo-arthritis of the hip. But while no diagnostic significance attaches to pain passing down one or other of these various trunks, we would emphasise this fact that in our experience *simultaneous pain along the anterior crural or obturator as well as along the sciatic nerve* is very distinctive of this disorder. In other words, not pain along the front or back of thigh, but pain along both back and front is, we think, more typical of this affection.

While on this question of referred pains in osteo-arthritis, we would lay stress on their chief peculiarity, which to our mind is not so much their intensity as the extraordinary length of the period they endure. Thus patients with well-marked malum coxæ always assert that they have not only for years but for two or even three decades suffered with their pains. When, therefore, we find middle-aged men so constantly referring their onset right back to early manhood, we may well question the applicability to this disorder of the term malum coxæ senilis. Moreover, and this is even less generally recognised—viz., that despite their long duration and association with unequivocal signs of articular disease, yet skiagraphy, as we have ascertained by routine examination of such cases, frequently shows an absence of bony outgrowths.

Again, it is often stated that the pains of osteo-arthritis, like those of rheumatism or fibrositis, are subject to nocturnal exacerbations and are influenced by weather changes. This is, we believe, inaccurate, as once the subject is comfortably settled in bed he is free of suffering until he consciously or unwittingly changes his position. This is, at any rate, true of the earlier stages, but of course when definite malposition has arisen it is so much the more difficult for the subject to attain a posture free from pain. The dependence of the pain on mechanical or static causes is, we think, clearly shown by the fact that when ankylosis by osteophytic outgrowths has resulted the pains diminish or even disappear wholly. Also in regard of climatic variations most osteo-arthritics, if carefully questioned, seem unable to establish any constant relationship between these and the incidence or intensification of their pains.

In conclusion, the characteristics we would lay stress on are: (1) the greater localising value of articular as opposed to referred pain in osteo-arthritis; (2) the diagnostic significance attaching to referred pains experienced simultaneously along the anterior crural as well as the sciatic nerve trunk; (3) the prolonged duration and existence of local and referred pains often prior to the formation of osteophytes; and (4) the direct dependence of pain on movement or strain and their independence of weather changes.

Associated lumbar pains. — Almost invariably these subjects suffer at the same time with pain in the loins, which of course enhances their liability to confusion with sciatica—a condition so commonly associated with lumbago. But the lumbar pains met with in this hip disorder are easily differentiated from those accompanying ordinary sciatica. Those of the former are insidious and gradual in onset, subacute in degree, and arise secondarily to the hip mischief. In other words, they are purely static in orgin — a consequence of erroneous deflection of body weight—for there is commonly present a state of lordosis with transverse rotation forward of the pelvis, and so in this

way additional strain upon the sacro-iliac ligaments. In the latter the lumbar pain or lumbago is abrupt in onset, very acute in degree, precedes or is primary to the sciatica, and is due to an inflammatory process in the fibrous tissues of the lumbar muscles which eventually extends to the sheath of the sciatic trunk.

Alterations in gait and attitude.—In the initial stage no change can be detected save in the temporary limping that follows the occasional incarceration of the enlarged synovial villi. But with their growth and the advancing involvement of the membrane the intra-articular irritation produced gives rise to spasm of the related muscle, and this to malposition through slight flexion of the hip-joint. On inspection, therefore, it will be noted that the patient stands on the sound foot; the other is usually a little advanced, and he tends to rest upon the ball rather than upon the heel. At the same time, in order to save the affected joint, the knee on the same side is slightly bent, while the foot and even the whole limb are held in a position of external rotation.

Limitation of mobility.—Relative fixity of the joint is, of course, the sign of chief diagnostic importance, and even in the very earliest stages there is present some limitation in the arc of motion in the hip. It is present long before osteophytes can be detected by skiagraphy. The restriction of mobility is presumably due to reflex irritation of the muscles controlling the joint, which are maintained in a state of more or less spasm, the degree of which is proportional to the activity of the intra-articular disease. To elicit its presence the patient should be undressed and lie, not on a soft bed, but on a table or hard couch. It must then be noted whether he can recline flat on his back with the ham of the affected limb closely applied to the underlying surface, and this without any arching of the lumbar spine. Far more often than is generally realised will these cases—so often mistaken for sciatica or rheumatism—be found presenting a well-marked lordotic curve, while the knee of the affected side is at the same time more or less raised from the table.

The presence of this *flexion contracture* is of prime value as an indication of the articular site of the affection, but there are always present also further restrictions of movement. Maximal extension and flexion, especially the former, are usually difficult or often impossible of accomplishment, while the range of inward rotation and abduction is appreciably diminished. Sometimes the hip in addition to being slightly flexed and externally rotated is a little abducted, and in this event to allow of the subject moving about the flexion and abduction must be compensated for. This is attained by drawing up the sound side of the pelvis and depressing the opposite, and through this tilting he brings the femur inwards to the middle line, while simultaneously the lumbar column is curved with its convexity pointing towards the diseased side.

The foregoing constitute the initial symptoms of osteo-arthritis of the hip, and the point we would lay stress on is this—that despite the presence of such unequivocal symptoms and signs of articular hip disorder yet skiagraphy often reveals no structural alteration in bone or cartilage. Early diagnosis is so essential that we would summarise the symptoms and signs we regard as diagnostic:—

1. *Deep-seated articular pain*, at first of abrupt incidence and disappearance, and later more constant and accompanied by capsular tenderness.

2. *Referred pains*, which likewise are subject to remissions and exacerbations, and which more commonly are felt not only along the sciatic but simultaneously along the obturator and crural trunks.

3. *Fixity of joint* as shown by slight hip flexion with lordosis.

4. Limitation of extension, flexion, inward rotation, and abduction.

5. Eversion of foot and leg.

Conclusions.—In our opening remarks we commented on the extreme slowness with which the condition of osteo-arthritis of the hip is established and we would here emphasise the extreme length of time that may elapse before bony outgrowths can be detected. From our consideration, therefore, of the clinical features supplemented by the results of skiagraphy we are led to postulate two stages in the life history of osteo-arthritis.

1. A *primary* or *pre-osteophytic* phase, often of prolonged duration, whose clinical characteristics are those of villous hypertrophy.

2. A *secondary* or *terminal* stage in which bony and cartilaginous outgrowths make their appearance.

Our presumption as to the villous nature of the disorder is based on the occurrence of attacks of pain with pseudo-locking sensations which come and go in the same erratic fashion that we are familiar with in the case of the knee. In addition, too, we have in some instances accessory evidence in the shape of villous overgrowths in the knees, which, of course, in this articulation are more easy of detection by palpation. In support, too, of our contention we would remark that if in so-called osteo-arthritis of the knees skiagraphy be resorted to after routine fashion the same absence of bony outgrowths will be ascertained with striking frequency save in the more advanced cases. We are led, therefore, to the conclusion that this condition of osteo-arthritis, whether of the hip or knee, is invariably preceded by a long period during which the only local signs and symptoms clinically appreciable are those of villous hypertrophy. In other words, the villous overgrowths being more obtrusive mask as it were the early beginnings of fibrillation in the diseased cartilage.

Diagnosis of osteo-arthritis of the hip in its terminal stages presents no difficulty, but unfortunately at this period in its life history treatment is of little avail. We would therefore urge that in all cases of so-called sciatica investigation of the movements of the hip should invariably be undertaken, for during the early or pre-osteophytic phases of the disease there is good reason to believe that the march of the morbid process may be arrested if care be taken to remove any sources of strain upon the affected articulation. In this connexion we would only indicate the importance of a reduction of body weight if obese, as undue corpulence is undoubtedly an aggravating factor. Coincidently any static deformity in the lower limb, whether in the direction of flat-foot or possibly inequality in length of the extremities, either congenital or acquired—viz., shortening from malunited fracture—should as far as possible be corrected so as to diminish any mechanical strain. For the diseased joint itself, when painful or irritable, absolute or relative fixation by some form of ensheathing apparatus is indicated pending the decline of acute symptoms. It should be discarded only during the night and reapplied in the morning after massage, passive movements, and hyperæmia or hydrotherapy, with or without thermal douches or hot-air applications, have been practised.

THE AFTER-CARE OF THE CONSUMPTIVE.[1]

BY H. W. McCONNEL, M.A., M.B. CANTAB., M.R.C.S. ENG.,

MEMBER OF COUNCIL OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS, AND HONORARY SECRETARY TO THE AFTER-CARE COMMITTEE.

IN the memorandum on after-care issued by the National Association for the Prevention of Consumption and Other Forms of Tuberculosis it is stated that the object of after-care is twofold: (1) to prevent relapse; and (2) to combat the fear of infection felt by employers and fellow workmen. To these may well be added, I think, two more reasons: (1) to look after the home and the family both while the bread-winner is away at the sanatorium and after he returns; and (2) to prevent the development of the loafer.

The first three of the above reasons, though of real importance, are self-evident and need not detain us, but on the last one—the development of the loafer—I may say a few words. In early sanatorium days this danger was very real. The patient had nothing whatever to do and no occupation except the aimless walk, for work had not yet been introduced as part of the treatment, and first the wish to work and then the power to do it were lost, and the patient as often as not left the sanatorium a confirmed loafer. This is now altered and, in the better sanatoriums at all events, the spirit of work is in the air, and men go there with a hope and an intention of leaving it fit and able to become wage-earners again. But the introduction of the National Insurance Act has increased the percentage of unsuitable cases sent to the sanatorium—i.e., has increased the number of patients who will be returned home unable to work—and the more these are increased the greater is the opening for the loafer—i.e., for the man who might work if compelled to, but who finds it more convenient to remain among the unemployable. Malingering is always difficult to meet, but much more so when there is a substratum of debility and ill-health. The members of an after-care committee should always bear this danger in mind, and by keeping up the patient's health and anticipating his difficulties with his employers and helping him to meet them, prevent him from brooding over his own misfortunes and from finding in them an obstacle to his success in life, and thus by holding out the hand of friendship help him to meet the hardship of his disease. So much for the objects of after-care. Now let us consider what is the best organisation of after-care in any neighbourhood.

Following the recommendations of the Local Government Board and the advice of the Advisory Committee given in their Interim Report, there will be in a little time in each county and borough county area a tuberculosis dispensary and a chief tuberculosis officer, and around these should be grouped all the antituberculosis efforts in the district. Here it is that the After-Care Committee should have its home, and it should include representatives of all the agencies, voluntary and official, that do such work.

Each district varies in its possibilities and conditions, and this will necessitate variation in the constitution and arrangement of the After-Care Committee. A purely country district like Somerset must be worked differently from a town district like Leeds, and large towns like Manchester and Liverpool have different requirements from country towns like Cambridge and Huntingdon. Again, a great deal depends on whether there is already in existence a powerful and active branch of a voluntary aid society like the Charity Organisation Society, or whether it is left to the medical officer of health, or the tuberculosis officer to work out the details of a scheme *de novo* and without much outside help.

On two other points I may lay stress. The first is the desirability of linking up the voluntary agencies with the official. After-care work on a voluntary basis is often found better (1) because it is more enthusiastic and more elastic than purely official after-care work; (2) because under a voluntary régime it is easier to deal with a case individually and on its own merits and to exclude all red tape; and (3) because voluntary agencies often have funds at their disposal, whether from church or chapel, or from a charity society—funds which the purely official authority find so very difficult to get, even for such things as are purely ancillary to the treatment. On the other hand, an official background is needed to give the necessary organisation and stability and to prevent overlapping and waste of energy, for voluntary workers often lack training and do not possess the legal power and rights of compulsion which officialism can give. A happy combination of the voluntary with the official is the right thing to aim at. After-care work is always difficult to arrange, and it is highly desirable to call in all and every aid possible, and not to turn the cold shoulder to the willing worker.

The other point which I should like to mention is the necessity in any effort that is being made of preventing any interference between the private patient and his medical attendant, but while this is being so arranged it must also be managed that the advantages of after-care assistance should extend to the private patient if he requires it. It is most important that the work of the local practitioner and of the panel practitioner be in harmony with that done at the dispensary. If the chief tuberculosis officer bears this in mind in his arrangements, then all things will work smoothly, but without the aid and sympathy of the local medical profession not only would the maximum benefit be lost, but the success of the whole system would be jeopardised.

The tuberculosis officer of Plymouth has issued a most interesting pamphlet on his scheme there. He sets forth clearly how it can best be carried on so as to avoid friction (and Plymouth is not unique, many other places also do it). The local practitioners are made to feel in every possible way that their assistance is asked, and that, though there is no desire or attempt to wrest their patients from them, the municipal dispensary is quite prepared to take charge of the case when they or the patient desire it.

So much for general remarks on the subject. I shall now pass to the results of an inquiry made by the National Association recently as to the methods of after-care at present in vogue.

Efforts have been made to get as complete a report as possible. All the permanent Insurance Committees and all the tuberculosis officers appointed up to date have been asked for information. It has been found that a good many places

[1] A paper read at a conference of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, held at Leeds on July 7th and 8th, 1914.

have not developed their scheme sufficiently yet to give any answer at all, but the answers that have been received showed that the methods adopted fall conveniently into five heads or classes: (1) places that do little after-care work at all and have no dispensary (this is owing either to apathy and general slackness or to being a little behind the times); (2) places where the after-care work is done through the medical officer of health, with official health visitors and a municipal dispensary; (3) where in addition there is a band of voluntary visitors and workers also helping, but under the control of the medical officer of health; (4) where there is a voluntary dispensary and voluntary After-Care Committee; and (5) where there is a municipal dispensary with health visitors and a fully organised voluntary After-Care Committee. I will now shortly consider each of these classes, and give a few typical instances.

Of the first class, the apathetic, it will be well perhaps not to give instances, but just to pass them by; but among those where nothing is yet settled may be mentioned Argyll and Grimsby and the Isle of Wight. This class, though comparatively large now, is rapidly diminishing in size.

To instance the second class, where there is a dispensary and official visitors all under the medical officer of health, I may mention Birkenhead, where it is stated that "there is no need for an After-Care Committee"; Perthshire, where "there are 11 dispensaries and official nurses, but no need for outside help"; Salford, where "no need has yet been found for an After-Care Committee"; and Southampton, where "the services of voluntary workers are not requisitioned." In these cases the work is well done by the energy of the medical officer of health, who takes the place of the After-Care Committee, but when a less energetic officer comes into power it will, I think, be found necessary to alter the arrangements.

In the third class approach is made towards an After-Care Committee, though one is not actually organised—i.e., voluntary assistance is welcomed. Thus in the London borough of Westminster there is a strong band of voluntary health visitors who act with and, to some degree, under the guidance of the two paid official health visitors. In Birmingham there are 10 paid health visitors, but the medical officer of health calls in the aid of the voluntary help societies too; and while mentioning Birmingham I may state that special efforts are being made there to meet the handicap caused by the fear of the consumptive, by giving to the ex-sanatorium patient a certificate of freedom from tubercle bacilli, if on investigation this is found to be the case. Ayr, Bolton, Dumbartonshire, and Manchester may also be mentioned as places where help is sought from voluntary visitors, and in Worcestershire, Norfolk, and Liverpool, and in many other places, members of the Insurance Committees assist in after-care work. In the boroughs of St. Pancras and of Wandsworth the cases are sorted out and referred to the suitable voluntary agency for help by the medical officer of health or his representative. In this class, as in the one previous, there is, I think, too great a strain on the individual, and the work would be equally well done if put under the control of a definite and properly organised after-care committee.

Now for the last two classes, in which there is a fully organised voluntary after-care committee. These differ in the fact than in one of them—the fourth—there is a voluntary dispensary, and in the other one a municipal dispensary.

The former class is small and almost confined to Edinburgh and to the 11 central fund dispensaries of some of the London boroughs—e.g., in Paddington and Kensington. Leeds also has both a voluntary and a municipal dispensary. These voluntary dispensaries were the first in the field, and led the way in dispensary work and in the after-care work attached, and nothing but praise can be given to their results. But, on the other hand, it is often found to be difficult to start a voluntary dispensary because of the shortness of money, and because in any place where a dispensary is being started the Local Government Board prefers that it should be under municipal control. A great point has been made by the advocates of the voluntary dispensary that domiciliary visits are easier to arrange for under this system than under a municipal one. It is even urged that they are forbidden under the latter, but as a matter of fact, if the rules and regulations are worked with elasticity, as they are in many places, and with the good will of the local practitioner, no difficulty is found in this matter, or in dealing satisfactorily with bed-ridden patients. And of course it must always be remembered that if it is necessary a municipal officer has a right of ingress which no voluntary official can possess.

In the fifth and last class there is, as has been said, the complete scheme—a municipal dispensary and a voluntary After-Care Committee under the controlling influence of the tuberculosis officer, and helped by representatives of all voluntary and official agencies interested in the work. There are more than 50 places where this scheme is already at work, and the number is daily increasing. In some of these the nucleus of the scheme already existed before the Act came in, and it is among those that it is being most successfully worked. Hampstead and Portsmouth may be taken as instances of this. In Hampstead there is a municipal dispensary under the tuberculosis officer which any Hampstead resident can attend, and there is a voluntary joint Tuberculosis Committee with five Branch Committees of Assistance that stand by to assist any phthisis case that needs help in any way. To Hampstead is also due the credit of leading the way in finding occupation for the part employable in their arrangements with the vacant land association. In Portsmouth under the Dispensary Care Committee, with the medical officer of health as chairman and adviser, the same work is carried on; extra nourishment and clothing are supplied, advice is given as regards work, monetary assistance advanced for removal to better homes, and the loan of shelters to patients requiring them is considered. At Plymouth, besides an After-Care Committee in connexion with the dispensary, there is one contemplated in connexion with the sanatorium also. This is most useful, because as the Tuberculosis Committees are in touch with one another it insures a continuity of advice about every patient. The same scheme is carried out at Kelling Sanatorium, but unfortunately here Norfolk is not advanced enough yet to have an After-Care Committee to receive the reports. I may mention that at Kelling a special after-care fund has been started to assist the patients on leaving. In Oxfordshire the after-care work is assisted by correspondents who, under the control of the tuberculosis officer, are appointed to look after individual cases. In Somerset something very similar obtains. Each case is handed

over by the tuberculosis officer into the charge of a member of an After-Care Committee, who is responsible for him to that committee, and no one else is allowed to bother him. At Eastbourne, under the presidency of the Mayor and chairmanship of the medical officer of health, a strong Tuberculosis Care Committee is at work with very satisfactory results. At Warrington the Guild of Help has been developed into a Tuberculosis Care Committee, with the old machinery, and, being fully representative, has started off with great enthusiasm. And, finally, I may mention that here at Leeds there is a Samaritan Committee in connexion with the voluntary dispensary, and an After-Care Committee has just been formed in connexion with the municipal dispensary. So in these matters Leeds has at all events made a good start.

In concluding this paper I should like to express a hope that in a short time a full scheme of after-care work will be started in each district, and that a grant towards the work may be made by the Treasury. The Local Government Board has acknowledged the importance of after-care, and if all local authorities would take it up the Treasury would not, I think, allow their efforts to be rendered futile through lack of funds, and would at all events consider the advisability of making a grant.

After all, the necessary extra money required for this work is not large in amount, and in any case it is much cheaper to spend a little money to keep a patient well and able to support his family than to allow all the money already spent to be wasted by a relapse through want of care and short-sighted economy.

Norwich.

TREATMENT OF YAWS BY INTRAVENOUS AND INTRAMUSCULAR INJECTIONS OF SALVARSAN AND NEOSALVARSAN.[1]

BY PHILIP HARPER, M.R.C.S. ENG., L.R.C.P. LOND.,
LATE SENIOR OBSTETRIC HOUSE PHYSICIAN, ST. THOMAS'S HOSPITAL, LONDON.

A CURATIVE treatment of yaws is especially necessary in Fiji because every Fijian who does not die in infancy contracts the disease, usually at about the age of 2 years. The mortality from yaws among the Fijian children is enormous—in fact, yaws, its sequelæ and complications are the chief causes of the excessively high death-rate among all ages of Fijians.

The tertiary stages of yaws are almost indistinguishable clinically from tertiary syphilis, whilst paraframbœsial diseases are as common among Fijians as parasyphilitic diseases are among other races. Miscarriage is common, especially in the early months of pregnancy, and is almost certainly due to maternal yaws. The total extinction of the Fijian race is threatened, and yaws is one of the most important factors.

In August, 1911, treatment by salvarsan was started by me at the Colonial Hospital, Suva. Thirty-six cases of yaws were treated there before the end of that year. From January, 1912, treatment by salvarsan and neosalvarsan has been continued by me in two of the country districts, a further 54 cases having been treated. In one of these districts there was a hospital for the treatment of Fijians. In the other there was no such hospital and patients were treated during my half-yearly tours of inspection in their own homes in the mountains. In all 90 cases of yaws have been treated, including a European, a Wallis Islander, some half-castes, Samoans, Indians, and Fijians, as the following table shows:—

Table showing the Number of Patients of Various Races Treated and the Drug and Method Employed.

Year.	Secondary yaws. Nationality.				Total.	Tertiary yaws. Nationality.					Total.	Grand Total.	Drug used and method. Salvarsan.		Neo-salvarsan.	
	Fijian.	Indian.	Wallis Isles.	Samoan.		European.	Fijian.	Indian.	Half caste.	Samoan.			Intra-venous.	Intra-muscular.	Intra-venous.	Intra-muscular.
1911	1	2	1	3	7	1	19	2	2	5	29	36	16	20	—	—
1912	13	—	—	—	13	—	9	9	2	2	22	35	—	35	—	—
1913	10	—	—	—	10	—	9	—	—	—	9	19	—	—	1	18
Total	24	2	1	3	30	1	37	11	4	7	60	90	16	55	1	18

As far as can be judged from the small number of cases treated, salvarsan has no selective influence on any particular race. Several of the Fijians suffered from albuminuria for two or three days after treatment. I cannot say why this should be, and am of opinion that filariasis has nothing whatever to do with it.

The method of treatment was by intravenous injection in 17 cases and by intramuscular or subcutaneous injection in 73 cases. In the cases treated during 1911 sterilised (but not filtered) distilled water was used for the preparation of a 1 in 50 faintly alkaline solution of salvarsan with 0·8 per cent. NaCl for intravenous use. I now use sterilised filtered rainwater for this purpose. Subcutaneous injection has been abandoned. For intramuscular use various oily suspensions were tried and abandoned, as was the faintly alkaline 1 in 10 solution of salvarsan in normal saline. I now use for intramuscular injection of salvarsan a 1 in 10 solution in sterilised filtered rainwater, this solution being strongly acid. For intravenous injection of neosalvarsan a solution in sterilised filtered rainwater with 0·4 per cent. NaCl is now used. For intramuscular injection of neosalvarsan a 1 in 10 solution in sterilised filtered rainwater is used. One case was treated with "blister serum" obtained from two patients treated six and five days previously. No improvement resulted, and in any case such treatment has nothing to recommend it in Fiji.

To judge from the very small number of cases treated salvarsan seems the preferable drug to use in hospital treatment, and neosalvarsan if patients have to be treated in their villages or at an out-patient dispensary.

With regard to dosage, it may be remarked that the average adult Fijian male weighs well over 160 lb.; the average adult Indian male in Fiji weighs probably somewhere about 110 lb. In dosage I am roughly guided by the body weight. Formerly 0·6 grm. of salvarsan was given to an adult male Fijian intravenously in the treatment of yaws, but now I prefer a smaller dose, as I am of

[1] This communication was taken as read at the Australasian Medical Congress, Feb. 12th, 1914.—ED. L.

opinion that several small doses are as efficacious in the treatment of yaws as is one large dose, and while being safer are not much more unpleasant. For yaws in Indians I give smaller doses than for syphilis. Altogether my single dosage has varied from 0·1 grm. of neosalvarsan intramuscularly to a baby aged 10 months to 0·6 grm. of salvarsan (or 0·9 grm. neosalvarsan) intravenously to an adult male Fijian. The intravenous method is preferable in hospital practice and the intramuscular when travelling. There was one death among the early cases, quoted as follows in the annual report for 1911:—

A female Fijian of about 50 years of age had been known at the hospital for some years as the subject of a chronic yaws ulcer of breast. She was a typical subject of chronic yaws cachexia with chronic nephritis (probably due to the arterial disease dependent upon chronic yaws cachexia). Considering the chronic yaws cachexia to be an indication for a full dose of salvarsan, on August 19th, 1911, she was given 0·6 grm. salvarsan intravenously. An hour later she had a violent rigor; temperature 103° F.; very rapid weak pulse, and vomiting. Throughout the night she was given strychnine and digitalin four-hourly. On the 20th she was still very weak, her pulse was poor, and food made her sick. The bowels were kept open by enemata. The urine was solid with albumin. On the 21st she complained of pain in the abdomen and joints. The muscles of the legs were tender on pressure. On the 24th jaundice set in, her listlessness increased, and her pulse became weaker. She died an hour after a full meal had been given to her by another patient against orders. Her relatives refused to allow a post-mortem examination. Death in my opinion was due to an overdose of salvarsan (arsenical poisoning). In the light of further experience I consider that 0·2 grm. would have been a suitable dose to start with.

With the exception of this case, of the case treated by "blister serum," and of one case which was much improved though not completely cured, all the cases were apparently cured.

Of the 30 secondary yaws cases all were acutely ill. Three children were so extensively ulcerated that it would have been impossible to place a halfpenny on an area of sound skin. It was impossible to determine how long these children had been affected before coming to hospital. One other case, an Indian child aged 8 years, had been under treatment by another medical man for over nine months without improvement, in spite of the use internally of various drugs together with local surgical measures. He was cured within a week by intravenous injection of 0·3 grm. of salvarsan. He was examined two years and four months after treatment by salvarsan and found free from any signs of disease. During that time he had had no recurrence. From what one sees of secondary yaws in Fiji it is certain that a majority of these cases must have died failing their treatment by salvarsan.

Of the cases of tertiary yaws, the lesions were chiefly chronic ulcers which had existed for periods of time varying from a month to over 50 years. The ulcers were usually multiple and the situations included the nail-beds of the fingers and toes, the plantar surface of the foot (where the very painful granuloma ulcerates through the thick plantar skin, forming the "soki" or crab-yaw), the heel, the upper surface of the foot, leg, thigh, penis, buttocks, and anus, the hand, forearm, arm, shoulder, breasts, front of chest wall, abdominal wall, back of the trunk, alæ and septum of nose, cheeks, tongue, hard and soft palate, and pillars of fauces and larynx. Many of these patients suffered from periostitis with or without ulceration of the overlying tissues, the periostitis affecting the tibiæ, manubrium sterni, ribs (with perichondritis of the costal cartilages), metacarpal bones, and phalanges.

Of the cases treated in 1911 for tertiary yaws four have been seen or definitely heard of after a lapse of a considerable period of time. The following short notes will describe their lesions, treatment, and results.

Serial Case No. 22.—A European male aged 57 years. Born in Fiji and has lived there all his life. He was sent to the Colonial Hospital in September, 1911, with a note from four European residents in his neighbourhood who evidently regarded his condition as hopeless. On examination he was very wasted and cachectic. His right hand was affected with chronic yaws ulceration which had existed for over 50 years without ever having been healed, although he had at frequent intervals been for weeks or months under treatment by drugs, such as potassium iodide internally and by such local measures as scraping and dressings. For over two months he had had two unhealthy looking protuberant ulcers of the skin of his face and for one month he had had a deep rapidly excavating ulcer of the penis about 1¼ inches in diameter. He suffered from marked chronic nephritis, having to get up five or six times each night to pass urine. The specific gravity of the urine was 1006; it contained no albumin. On Sept. 5th, 1911, he was given 0·3 grm. salvarsan intravenously. On the 11th a further 0·3 grm. subcutaneously was given. On the 20th the ulcers were all healed. The man left the hospital, as he expressed it, a healthier man than he had ever been before. He then had to get up only once or twice at night to pass water. I heard of this patient nearly 18 months later when he was reported to be "quite well."

Serial Case No. 4.—An adult male Samoan. He was the subject of a tertiary yaws ulceration of both legs of at least nine months' duration. Round these ulcers there was a large area of scarring which suggested that the legs must have been ulcerated on and off for many years. There was extensive periostitis of the right tibia. He had taken potassium iodide from a chemist for several months without improvement. On August 7th, 1911, he was given 0·6 grm. salvarsan intravenously. On the 21st he was discharged with his ulcers healed. Over a year later he was well and told me that he had had no recurrence of disease.

Serial Case No. 12.—An adult male Fijian with tertiary yaws ulceration of hands, pharynx, and throat. Salvarsan 0·6 grm. was given intramuscularly. Thirteen days later he was discharged cured. Two years and three months later he was examined and found to be perfectly well. He said he had had no illness since treatment.

Serial Case No. 7.—An adult female half-caste who was admitted to hospital with many callous ulcers over her shins and forearms. The left little finger was much scarred and ulcerated and was contracted by scar tissue. The patient gave a five years' history of this ulceration, but probably it had existed for much longer. She was given an intramuscular injection of 0·6 grm. of salvarsan and a subcutaneous injection of 0·2 grm. The ulcer on the little finger took several weeks to heal, and by the time she was discharged she was very greatly improved in general health. A year later she was seen by another medical man and was quite well, having had no symptoms of yaws after treatment. The other cases treated during 1911 have not returned to the Colonial Hospital for treatment, nor have they come back to me, but occasionally I hear of people who say they were cured of yaws by me at the Colonial Hospital, so the probability is that they have remained well since their treatment.

In conclusion, it may be said that salvarsan and neosalvarsan are the only drugs worth thinking of in the treatment of secondary yaws, which in Fiji is the most important stage of the disease. It is my opinion, also, that the injection of salvarsan or neosalvarsan is by far the most promising and radical method we now have for the treatment of tertiary yaws. So few cases of yaws have hitherto been treated by these drugs and so short a time has elapsed since the earliest cases were treated (my cases were, I believe, the first, or among the first, cases of yaws to be so treated, though they were not

the first reported), that it is inadvisable to jump to the conclusion, as some have done, that salvarsan is a cure for yaws. We know practically nothing of the natural history of the yaws spirochæta, and in my opinion we are not justified in regarding any case of yaws as cured until a long period of time (say ten years) has elapsed without recurrence. Even then the question of reinfection will have to be considered and may obscure the result. That many patients who would otherwise have died from yaws or its sequelæ have been saved by these drugs is unquestionable, and in Fiji, at all events, the correct use of the drug may result in giving a new lease of life to a dying race.

Fiji.

PNEUMOSAN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY A. E. CARVER, M.A., M.D., B.C. CANTAB., M.R.C.S. ENG.,

MEDICAL OFFICER IN CHARGE OF THE TUBERCULOSIS DEPARTMENT, BIRMINGHAM GENERAL DISPENSARY.

EARLY last year I had amongst the patients under my care a considerable number who were suffering from pulmonary tuberculosis in an acute stage. They were cases eminently unsuitable for the exhibition of tuberculin, so I determined cautiously to try pneumosan. The results proved so satisfactory with this group of patients that I extended the investigation in the following ways. First, I transferred from tuberculin to pneumosan all those patients who under tuberculin were not making such good progress as I desired. Secondly, taking a batch of new patients, I placed the odd numbers upon pneumosan, the even upon tuberculin; unless I considered that tuberculin might in any case prove harmful. In this way I have had during 12 months 121 patients under treatment with pneumosan, and I think the results will be of interest to practitioners who are as yet unfamiliar with the preparation.

Before tabulating my results I will describe the method of administration. The injection is given intramuscularly in the deltoid, using each arm alternately and avoiding as far as possible the exact site of the previous one. The patient's hand is placed upon his hip, the arm being held relaxed in the same plane as the body. The site for injection is swabbed with spirit solution (1:1000) and the needle plunged swiftly through the skin at right angles to it. Injection must be made slowly or it is likely to cause pain. It is recommended that the injections be given daily, but dealing with out-patients of the hospital class this is impracticable, and in most cases they are given but twice weekly; only in a small number three or more times a week. For an adult the initial dose is 0·25 c.c. (= ♏iv.); this was increased gradually to a maximum of 1 c.c. (= ♏xvii). In no case has any local reaction been observed, though a few patients have complained of pain in the arm during the remainder of the day after injection. General reactions as evidenced by the temperature chart are fairly common, but are not associated with such marked subjective symptoms as is usual with tuberculin reactions. As the course of treatment proceeded, the temperature where previously high and irregular usually steadied down; only in the very advanced cases did it maintain a daily variation through as much as 2° F.

My original object in using pneumosan was to reduce the patient's temperature and fit him for subsequent tuberculin treatment, but as I noticed that coincident with the defervescence there was a marked improvement in the general condition of most patients, I decided to withhold tuberculin and watch the effect of the continued administration of pneumosan upon the physical signs. The first sign of general improvement was, as a rule, diminution of cough; this was followed by increase of weight, appetite, and energy, resulting in an all-round feeling of renewed well-being. Many patients whose physical signs have altered but little (this refers especially to the advanced) nevertheless demonstrate in varying degrees these improvements in their general health. I spoke of having used pneumosan in 121 cases, but only 103 are tabulated; the reason for this discrepancy of 18 is that 7 patients after beginning treatment desired to discontinue their attendances at the dispensary, while the last 11 have not as yet been under treatment for a sufficient time to warrant their inclusion in the table.

Table showing how 103 Patients fared under Pneumosan Treatment, and into which Stage (Turban) they had Advanced.

—	First stage.	Second stage.	Third stage.	Very advanced.	Total.
Deteriorated under treatment	1	0	2	6	9
No appreciable change	5	2	5	3	15
Improved	10	10	8	5	33
Much improved	13	8	9	5	35
Disease arrested	7	3	1	0	11
Total...	36	23	25	19	103

I have lent towards severity in estimating the changes occurring after the use of pneumosan. It must be borne in mind that many of the cases were given pneumosan for the very reasons that they were not progressing favourably under other forms of treatment. Great difficulty was met with in subdividing patients in the improved groups. I confess that I am unable to give a precise definition of all the points which influenced me when subdividing this group, but, broadly speaking, those classed as "improved" are so chiefly with reference to their symptoms, while the "much improved" are so with reference to their physical signs as well as to their symptoms. As this paper approaches the subject solely from its clinical side I consider this rather loose subdivision of the improved cases to be helpful.

It is a striking coincidence that in all patients who are gaining the upper hand in their struggle with the tubercle bacillus symptoms improve before physical signs, and that it is not uncommon to find a patient who, anatomically speaking, is in an advanced stage of tuberculosis is yet symptomatically well for all ordinary purposes. Such patients may well be termed "carriers." On the other hand, patients in an earlier stage with no, or but slight, physical signs are not infrequently suffering from pronounced toxæmia. These facts should make us extremely cautious in speaking of a cure or even an arrest of the disease. Unfortunately, we have as yet no reaction whereby we are enabled to test whether the disease is entirely overcome or is remaining latent. Besredka's serum diagnosis may prove to be such, but requires further confirmation. The tuberculin reaction is an anaphylactic phenomenon, and merely informs us that our

patient has at some time in his life been rendered sensitive to tuberculin. This information, though occasionally very useful for diagnostic purposes, does not help us in deciding when a patient is cured, and there is no evidence to show that the mere raising of tuberculin tolerance to a high level is coincident with the eradication of the disease. As, therefore, we have no certain method of determining when the disease is eradicated, I have in drawing up the preceding table only classed a patient as "disease arrested" when physical examination shows no signs of activity and when at the same time all symptoms have ceased. This class, together with certain of the "much improved" group, are now on furlough and are due to report for re-examination on fixed dates. All our patients are in this way kept under periodical observation, and during the intervals are visited from time to time by the nursing staff. At a later date, therefore, I shall be in a position to state to what extent these patients have succeeded in maintaining their health. However this may be, I anticipate that in the course of a few months the balance of the table will be greatly altered by the passing over of many from the "much improved" to the "disease arrested" group. It will be noticed that the so-called first stage cases show the highest proportion of good results. This is only to be expected under any beneficial form of treatment, but I should like to take this opportunity to point out that what we are in the habit of calling the first stage (using Turban's anatomical classification) is in reality a stage of well-advanced disease. Strictly speaking, the first stage is the stage of deposition of the bacillus in the tissues; between this and the development of physical signs a considerable interval elapses, during which the tuberculin reaction manifests itself. It is the appearance of this reaction which heralds the second stage proper. During all this time the bacilli have been multiplying in the tissues and have been surrounded by barriers of connective tissue creating what Ehrlich terms a "dead corner," which makes it increasingly difficult for our remedies to affect them either directly or indirectly. Yet it is not until all this has happened that we begin to talk of a first stage.

What really is most needed in the treatment of tuberculosis is early diagnosis, such as is now possible in the case of syphilis. When we have a means of arriving at the diagnosis sufficiently early my experience leads me to hope that in a majority of cases a course of treatment with pneumosan will prove entirely efficacious. I have found it a most useful drug in the so-called first and second stages of the disease, and I know of no better palliative in advanced cases. I do not regard its action as specific, but rather as tonic and alterative. In a large number of cases its use is followed by a defervescence of temperature and an improvement of the patient's general condition, resulting in arrest of the disease. On these grounds I consider that it merits a more extended trial, particularly as its use appears to be free from danger even in acute and advanced cases.

In the course of my remarks I may appear to have disparaged tuberculin as a therapeutic agent; before concluding, then, let me make it clear that I am a believer in the value of tuberculin under proper conditions

Birmingham

Reviews and Notices of Books.

The Great Problems.

By BERNARDINO VARISCO, Professor of Theoretic Philosophy in the University of Rome. Translated by R. C. LODGE, M.A. London: George Allen and Co., Limited. 1914. Pp. 370. Price 10*s.* 6*d.* net.

F. Schlegel was the first to observe that every man is born either a Platonist or an Aristotelian; and it is unquestionably true that a broad dichotomy exists in men's outlook on philosophic problems. The method of one is that of mysticism, the other that of science. The work of one looms vaguely through a cloud of emotion and hidden longings or passions; that of the other presents sharp and decisive outlines, and exhibits without softening or disguise the naked crudity of facts. Doubtless each point of view is rooted deep in the inherited constitution of the mind of man, and the weapons to which the first is accustomed are ill-fitted to combat the tenets of the second.

The philosophy of Bernardino Varisco represents the extreme mystical position, in sharp contrast to the philosophy of science. It is likely, therefore, that many men of science will see in it, as in all such systems, nothing more than a refined and educated expression of the class of sentiments which in a lower sphere gives rise to "christian science" or "higher thought." Just as a quack medicine plausibly advertised may take in a large number of apparently intelligent people, so a quack philosophy when backed by the learning and conviction of a university professor may carry an appearance of respectability which will be questioned only by those whose contact with human nature has taught them the astonishing fallibility and measureless credulity of mankind. A body, according to Professor Varisco, is a group of sense-perceivables bound together by a law. The Kantian reader would, perhaps, rather be this than simply an original transcendental synthetic unity of apperception; but neither solution is very attractive. Morality, according to Professor Varisco, is by no means "bien fondée," unless it is in agreement with "metaphysical truth." Seeing that scarcely two philosophers can be found to agree as to what is metaphysical truth, morality would seem to be in a bad way. Professor Varisco accepts the view of the original degradation of man: Every man begins by being "a true brute, however sweet a baby"; and this is a fact "to which nothing can be opposed except idle chatter." The professor travels somewhat far afield in search of an illustration of bad manners—viz., taking in one's arms a young lady in her nightdress. But, we are informed, the relativity of such rules is shown by the fact that this breach of good manners may rightly be perpetrated by a night-watchman in case of fire.

The translation is good, though a few criticisms are inevitably called for. We do not know what is meant by the "mutual weight" of bodies. It is customary in England to write the name of Descartes in one word. One note of warning, however: he who "tries to destroy my value," says Professor Varisco, "commits an infamous action." ..... "He is a brute with certain human characteristics. If I have the power I crush him like a loathsome poisonous worm." Let us, then, hastily disarm Professor Varisco's wrath by warmly recommending his work to all theosophists, mystics,

flagellants, tarantists, and others who recoil from the drab vulgarity of a matter-of-fact world.

Medical Gynecology.

By SAMUEL WYLLIS BANDLER, Adjunct Professor of Diseases of Women, New York Post-Graduate Hospital and Medical School. Third edition, thoroughly revised, with original illustrations. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 790. Price 21*s.* net.

THIS work has reached a third edition and, as the author points out, the demand for this new edition coincides with a more general recognition in every department of medicine of the importance of the internal secretions. In previous editions the importance of these secretions has been pointed out, and in recent work on this subject Dr. Bandler thinks that we have the very highest proofs of the close inter-relationships existing between the genital tract of women and the various internal glands. No doubt in the main this is true, but it is important to remember that there is still much that is conjectural in regard to these subjects. It is therefore very questionable whether the time has yet come when such relations, highly speculative as they are and must remain for a long time, should be allowed to bulk so largely in a text-book devoted to medical gynæcology as they do in this present work. A large amount of space is devoted to an interesting account of the many theories which have been put forward as to the functions and inter-relations of the various internal glands, and no small part of the author's treatment is coloured by the fact that he apparently believes in such inter-relations to a very great degree. For this reason, although his teaching on these points is interesting, we are not prepared to admit that it is all founded upon a very sure basis. At any rate, in this respect the book is up to date, even if many of the deductions drawn are not warranted by the proved facts.

Pathogenic Micro-organisms: A Text-book of Microbiology for Physicians and Students of Medicine.

By WARD J. MACNEAL, Ph.D., M.D., Professor of Pathology and Bacteriology in the New York Post-graduate Medical School and Hospital. Philadelphia: P. Blakiston's Son and Co. 1914. Pp. 462.

THIS book represents a new edition of Professor H. U. Williams's Manual of Bacteriology, but has been largely rewritten. It embraces not only bacteria but also protozoan parasites.

After an introductory section on the relationship of micro-organisms to pathology, commerce, and agriculture, the first six chapters of the book are devoted to methods of microscopy, staining, cultivation, and so forth, practical advice being given as to collection of material and inoculation of animals. The next seven chapters, forming the second part of the book, deal with the general characters of micro-organisms—morphology, physiology, habitat, pathogenicity, and with the theory of immunity, including the various substances formed in the body of the host in response to infection. In the remaining chapters—XIV. to XXX.—the individual organisms are dealt with; the moulds, trichomycetes, cocci, and bacteria being taken up in turn, followed by the spirilla, spirochætæ, filterable microbes, and the four groups of protozoa. Organisms parasitic in animals receive attention as well as those found in human beings; indeed, the list of organisms included seems very complete, and the accounts of them are adequate for the purposes of the medical reader, though necessarily condensed. There is a large number of illustrations which are satisfactory on the whole; those of the protozoa are mainly taken from Doflein's manual. References to other works are at times given in foot-notes to enable further information to be sought on particular subjects.

The book contains a large amount of information in a small compass. It is accurate and up to date, and may be commended for the use of students of medicine.

Practical Hormone Therapy.

By H. R. HARROWER. With a Foreword by Professor Dr. A. BIEDL. London: Baillière, Tindall, and Cox. 1914. Pp. 488. Price 15*s.* net.

IN both medicine and physiology hormones and the secretions of the ductless glands have received a vast amount of attention during the last few years. Notable discussions on the subject took place at the International Congress of Medicine held in London last August, and the literature dealing with the endocrine (or internally secreting) glands is nowadays portentously large. This literature has been very ably summarised in the typical encyclopædic German text-book of Professor A. Biedl, of Vienna,[1] who writes an appreciative preface to this volume, which is founded on the literature of the subject, and does not profess to be a record of personal clinical experiences. To use the author's phrase, most of the facts have been drawn from medical and technical journals, and his large charity would appear to put an equally high value upon all of them. Three chapters at the end of the book give a glossary of many of the new terms used in hormone therapy, an organotherapeutic dose-table and list of diseases in which the various animal extracts are likely to do good, and a list of the most important books on the internal secretions. This section may be of service to the general practitioner.

Heil- und Pflegeanstalten für Psychischkranke in Wort und Bild.

Redigiert von Oberarzt Dr. JOHS. BRESLER. Erster Band. Halle/a/S.: Carl Marhold. 1914. Pp. 372. Price 14 marks.

THE work, of which this is the first volume, forms part of a series of publications issued by the firm of Marhold, of Halle, descriptive of hospitals, asylums, and other public institutions for the care of the sick and infirm. Earlier volumes dealt with lunatic asylums in Germany and Austria, and this further work proposes to describe on similar lines the institutions for the insane in other countries.

In the present volume accounts are given of a number of asylums in Brazil, Japan, Russia, Sweden, Denmark, Holland, Belgium, Hungary, Servia, and Bulgaria, and also of some recently built asylums in Germany. The descriptive articles are written by the superintendents of the several asylums or by other members of the medical staffs, and in each case the text is illustrated by an abundance of photographs which have been admirably reproduced, and also, in most instances, by fairly detailed plans. The work should prove useful to architects and to others who are concerned with designing new asylums,

[1] THE LANCET, March 22nd, 1913, p. 833.

both as a compendium of information that can be immediately utilised, and as a guide to selecting the institutions which may most profitably be visited with a view to studying the development and application of special structural features.

But the book has also a wider interest as showing the general tendencies, as well as the local and national influences, in modern asylum construction. From this point of view it is gratifying to observe that abroad, as in this country, it has become the aim of asylum architects to eliminate, as far as possible, the prison-like character that used to be distinctive of such institutions. Traces of the older ideas, however, still persist, especially in the designing of asylums for criminal and dangerous lunatics; and some of the buildings of quite recent date described in this volume—such, for instance, as the Festes Haus erected in 1913 in connexion with Plagwitz Asylum—have more resemblance to old-fashioned prisons than to modern hospitals for the insane. Unless the proportion of desperately dangerous patients is very much higher in German asylums than in those of this country, it is difficult to believe that such elaborate provision for security and restraint can be either necessary or desirable. In pleasant contrast with these survivals of the penal tradition in the treatment of insanity, we may note the admirable lines on which the latest asylum in the Rhine Provinces, that of Bedburg-Hau, near Cleves, has been planned. The description of this splendid asylum is one of the fullest and most interesting in the book, and may be commended to the attention of readers who desire to acquaint themselves with the most modern ideas in asylum construction.

Lehrbuch der Forensischen Psychiatrie.

Von Professor Dr. A. H. HÜBNER, Oberarzt der Psychiatrischen und Nervenklinik in Bonn. Bonn: A. Marcus und E. Weber. 1914. Pp. 1066. Price, paper, 26 marks; bound, 28 marks.

Professor Hübner's text-book of forensic psychiatry has naturally a restricted appeal in so far as its first half, of some 600 pages, is concerned with the German and Austrian statutes that bear on criminal lunacy, accident compensation, the responsibility of the mentally defective, disciplinary regulations in regard to military service, nullity of marriage, testamentary capacity, and kindred subjects. The second half of the book supplies a series of long sketches of the varieties of nervous and mental disease, where symptoms may arise that may become of medico-legal importance. This section is amplified by the inclusion of a large number of illustrative cases, many of which, especially perhaps those that exemplify hysteria and epilepsy, are of considerable interest.

We should think that a volume of such erudition is sure to prove valuable to the neurologists and alienists in Germany and Austria, whose practice must bring them into contact with such cases as are here described, and to whom a suitable work of reference is indispensable.

MISCELLANEOUS VOLUMES.

A NUMBER of text-books on biochemistry, organic chemistry, inorganic chemistry, physics, and chemical physiology have been received by us since a recent date, and these may be conveniently dealt with in juxtaposition.

The valuable series of monographs on biochemistry, published by Messrs. Longmans, Green, and Co., and edited by R. H. A. PLIMMER, D.Sc., and F. G. HOPKINS, M.A., M.B., D.Sc., F.R.S., has recently been enriched by several volumes. Mr. GEORGE BARGER, M.A., D.Sc., contributes an interesting volume on *The Simpler Natural Bases* (London: Longmans, Green, and Co. 1914. Pp. 215. Price 6*s.* net), these being the basic substances of animals and plants represented by the amines derived from protein, the betaines, choline and allied substances, the creatine group, adrenalin, and bases of unknown constitution—e.g., spermine and vitamine. The appendix includes an account of the practical chemical methods used in the separation of these bases. The work contains an admirable survey of the recent developments of this important branch of research.——Mr. WALTER JONES, Ph.D., has written a very instructive monograph on the *Nucleic Acids* (same publishers. Pp. 115. Price 3*s.* 6*d.* net). The appearance of this volume will be welcomed, as the subject has not hitherto received exclusive treatment. The chemical properties and the physiological action of the nucleic acids (thymus nucleic acid and yeast nucleic acid, for example) are adequately described.——*Alcoholic Fermentation*, by ARTHUR HARDEN, Ph.D., D.Sc., F.R.S. (same publishers. Pp. 156. Price 4*s.* net), is a new edition, issued to keep pace with the rapid progress made in this field of inquiry. The modern views of the process of fermentation are set forth clearly, and the subject shows most interesting developments, about which the author writes authoritatively.——*The Nature of Enzyme Action*, by Professor W. M. BAYLISS, D.Sc., F.R.S. (same publishers. Pp. 180. Price 5*s.*), has reached its third edition, the reissue being necessary on account of continual new discoveries in this field. The chapters on "reversibility" and on the "combination" between enzyme and substrate illustrate well the trend of these discoveries. The sections are of extreme interest, the development of the subject leading to vital interpretations of biological processes. There is no more fascinating subject than the behaviour of enzymes and co-bodies in regulating the great physiological processes inside and outside the human machine.——The eighth edition of Professor W. D. HALLIBURTON'S *Essentials of Chemical Physiology* (same publishers. Pp. 324. Price 5*s.* net) has been issued, and here again the author has had to work hard in the direction of revision in view of the great advances made in all branches of biochemistry. In this he has succeeded whilst keeping the volume within convenient limits. A valuable feature of this new edition is the use of heavy type which serves to emphasise the importance of the practical sections. It is an excellent guide to the student in the laboratory, and possesses the advantage of presenting practical details in clear terms.——*Spectrum Analysis applied to Biology and Medicine*, by the late C. A. MACMUNN (same publishers. Pp. 112. Price 5*s.* net), brings together the valuable researches of this author in the field indicated by the title. In spite of the disadvantages under which he laboured he has presented results of considerable importance in the medical and biological study of pigments, most of his work being done after a busy professional day and in an environment remote from the help or encouragement of co-workers in science. Vegetable, urinary, and blood pigments form the chief theme of the work, and it contains numerous interesting disclosures in regard to the analytical power of the spectroscope in this region of study. The animal and vegetable pigments are well worth further attention when the importance and significance of their functions are considered. The subject is unquestionably advanced by the issue of this volume.

The Viscosity of Liquids, by ALBERT ERNEST DUNSTAN, D.Sc., and FERDINAND BERNARD THOLE, B.Sc. (same publishers. Pp. 91. Price 3*s.* net), is an interesting contribution upon this question. If we accept, with the authors, the view that viscosity stands out as an eminent constituent property of the same order as optical rotatory power and the solution absorption of light, the measurement of this property becomes of importance in elucidating chemical structure. The book gives a short history of the subject and presents a working formula and a description of the various apparatus used.——*Photo-electricity* is the title of a monograph by H. STANLEY ALLEN, M.A., D.Sc. (same publishers. Pp. 220. Price 7*s.* 6*d.* net), which deals with the liberation of electrons by light, and in which evidence is given of the action of light which may easily assume medical significance. The action of light has been seriously studied of late, and though in a general way we have known for long that light was essential

to the well-being of the human organism, we are now getting a closer view of its influences. Ultra-violet light, according to the many interesting observations recorded in this book, is the most effective in bringing about changes in the state of electrification of a body. Hertz was the first to notice that when ultra-violet light fell upon a spark gap the discharge took place more easily than when the gap was not illuminated. An ordinary flame will produce a similar effect. The liberation of electrons by light again is probably at the root of the phenomenon of fluorescence and phosphorescence. The book presents the developments of this subject in accurate and clear terms.——*Rays of Positive Electricity and their Application to Chemical Analyses*, by Sir J. J. THOMSON, O.M. (same publishers. Pp. 132. Price 5*s*. net), contains an interesting chapter on the application of positive rays to chemical analysis, and one of the reasons for the appearance of the book was the hope that its publication might induce others, and especially chemists, to try this method of analysis. The author describes the method as surprisingly sensitive, more so even than that of spectrum analysis, while the amount of material required is infinitesimal. He is confident that many problems in chemistry could be solved with far greater ease by this than any other method. A gas is placed into a discharge tube and a photograph of the positive rays is taken. From a study of the mechanism of the photographs it is possible to determine the different kinds of atoms and molecules in the discharge tube; and, further, the atomic or molecular weight of the gases can also be ascertained. This method has already indicated the presence of a new element in the lighter constituents of the atmosphere, which Sir J. J. Thomson thinks is tri-atomic hydrogen H_3. The book is a very interesting study of the valuable work that is being done in the Cavendish Laboratory under the direction of its distinguished professor.——*Molecular Physics*, by JAMES ARNOLD CROWTHER, M.A. (London: J. and A. Churchill. 1914. Pp. 167. Price 3*s*. 6*d*. net) evidences again the fruitful work done in the region of physics at the Cavendish Laboratory. Here again the analytical power of the positive rays is dealt with, and the illustrations are in fact reproductions of Sir J. J. Thomson's photographs, to whom the author expresses his acknowledgments. The book is attractively and clearly written, and those who are desirous of acquainting themselves with the recent marvellous developments in regard to our knowledge of the physics of the molecule, electrons, positive particles, and so forth, will read this account with unquestionable gain.——An important branch of the same subject is discussed in *The Chemistry of the Radio-Elements*, by FREDERICK SODDY, F.R.S. (London: Longmans, Green, and Co. 1914. Pp. 46. Price 2*s* net). The present issue is Part II. and is devoted to "The Radio-Elements and the Periodic Law." The position is well summed up in the following sentences: "Probably not one of the numerous new radio-elements possesses a unique chemical character unshared by others, and the chemistry of the 34 individuals now recognised becomes in consequence the chemistry of a much smaller number—about ten in all—of types of elements. Of these five were known long before radio-activity, and the other five have been subsequently recognised as the direct result of that discovery." It is further concluded that the figures attached to the various families of the periodic table are relative rather than absolute, and represent not so much the absolute number of detachable electrons in the outer atomic ring as the number which one atom will succeed in detaching from another, the absolute number present in the ring being unknown. This view threatens to break down the boundary hitherto thought to exist between energy and matter.——From a medical point of view the most interesting question dealt with in *Incandescent Lamps and their Application*, by DANIEL H. OGLEY (same publishers. 1914. Pp. 108. Price 2*s*. 6*d*. net), is that of indirect lighting. The book is full of other interesting information in regard to the uses and properties of incandescent electric lamps. The author commends the inverted or indirect system and rightly condemns any system of illumination which means an offensive and painful glare to the eye. There are some excellent reproductions of photographs illustrating the charming effects of indirect lighting in the interior of churches, theatres, shop windows, workshops, and so forth. We are glad this subject is receiving considerable attention. For this movement a word of praise is due to the British Thomson Houston Company for their excellent appliances, which secure artistic, soft, and efficient illumination.

A Third Year Course of Organic Chemistry, by T. P. HILDITCH, D.Sc. Lond., F.I.C. (London: Methuen and Co. 1914. Pp. 411. Price 6*s*.), is the sequel to "First Year Organic Chemistry," by Dr. A. E. Dunstan, and to Mr. F. B. Thole's "Second Year Organic Chemistry," the former dealing with the aliphatic (fatty) group of organic compounds, and the latter with the carbocyclic or benzene group. The present volume "completes the series by a survey of the heterocyclic compounds, followed by a study of certain groups of aliphatic and carbocyclic substances which, by reason of their complexity, are omitted from detailed consideration by students in the earlier periods of their course." The sugars and polypeptides and the terpenes or hydroaromatic compounds are thus included. The book deals clearly with a complicated subject, and completes a series of text-books on organic chemistry which are particularly adapted for the use of students approaching the subject for the first time.

A series of useful practical chemical exercises for students reading for the Diploma in Public Health are brought together in *A Manual of Practical Chemistry for Public Health Students*, by A. W. STEWART, D.Sc. (London: John Bale, Sons, and Danielsson 1913. Pp. 76. Price 3*s*. 6*d*. net). These cover the experimental work connected with the analysis of air, water, foods and beverages, disinfectants, acidimetry, and alkalimetry. The paragraphs are brief, being confined strictly to practical analysis and examination. The tests chosen are evidently those which are found to be trustworthy in practice and which offer no special difficulties to the candidate.——In his *Notes on Elementary Inorganic Chemistry* (Cambridge University Press. 1914. Pp. 56. Price 3*s*. net) Mr. F. H. JEFFERY, M.A., has introduced a laboratory companion to a course of lectures on elementary inorganic chemistry which presents the rudiments in simple terms and in a sequence which is helpful to the young student. In addition to setting forth well-known reactions and tests there is a useful note on certain examples of electrolysis. These notes possess the merit of simplicity, while they are written in conformity with modern ideas.

Amateur gardeners besides teachers and students of horticulture should appreciate *A Course of Practical Work in the Chemistry of the Garden*, by D. R. EDWARDES-KER, B.A., B.Sc. (London: John Murray. 1914. Pp. 40. Price 1*s*. 6*d*. net). It contains four chapters on the chemistry of (1) plants, (2) soda, (3) manures and fertilisers, and (4) sprays and washes. The experiments are described in charmingly simple terms and each conveys a valuable lesson. The management of the garden can be efficient only when a knowledge of the nutritive requirements of the plant is acquired, and this is supplied in this book. The facts about the nature of the soil and its active agents and the rôle of manures amply justify a recommendation of the book to the really systematic and interested gardener.

JOURNALS AND MAGAZINES.

Archives of the Roentgen Ray.—We are glad to welcome the first two numbers of vol. xix. of this periodical under its new publisher, William Heinemann. It is now printed throughout on art paper, which gives additional clearness to the diagrams and illustrations in the text. The June number contains an important article on the Absolute Measurement of the Biological Action of the X Rays and the Gamma Rays, by Dr. B. Szilard. The method adopted is that of ionisation, as being more free from objection than photographic, chemical, electrical, and other methods. In the July number is a most important paper from Dr. J. T. Case, a Critical Study of Intestinal Stasis. This article is one that deserves serious study, and without doubt will give rise to no little criticism and controversy. Dr. Case has worked at his subject with characteristic thoroughness, and the view taken by American surgeons of ileal stasis and intestinal kinks differs somewhat from that entertained in this country. We would direct attention to the first of a series of articles on diathermy, by Dr. E. P. Cumberbatch. This form of electrical application is becoming more widely used in many London hospitals, and is attracting considerable

attention on the part of the profession, so that this series of articles] will be of great value. The illustrations are good and well printed. We would draw attention to a radiograph of tulips by Mr. J. Hall-Edwards, and also to one by Dr. Reginald Morton illustrating the condition of calcaneodynia, or "painful heel." Several other papers are contributed of special interest to radiologists, and the reviews, its sound notes and abstracts from current literature, make the publication a thoroughly useful one to the medical profession as a whole.

The Military Surgeon (Chicago, U.S.A.). July, 1914.—Major F. W. Williams, Medical Corps, U.S. Army, reports an interesting case of identification by finger prints. The completely decomposed body of an unknown soldier was found lying in the woods in Texas. Only the nails and a little shrivelled skin of the feet and hands remained, the epidermis had been shed, but the markings on the dermis of the finger tips could be seen. Perfect moulds of the ends of the fingers were made with dental guttapercha and sent to the adjutant-general, who was able to conclude the remains were those of a man who had deserted two months before. Captain Craig and Captain Lamble report in the same issue a sanitary survey they made of an Indian village in Alaska. The population was 170: 51 men, 62 women, 57 "children," who were boys under 20 and girls under 18. The small number of "children" proves that the race is dwindling rapidly, and even of the 57 "children" only 21 were robust. The older women past child-bearing had averaged seven children each; of the younger women a quarter suffered from inflammation of the uterus or appendages. One-third of the men, one-quarter of the women and children have tuberculosis. Seven cases of congenital dislocation of the hip are reported, two of them double, pointing to elementary management of labours. That is not stated. The houses were poor and insanitary, generally of two rooms only with a family living in each. The article closes with an appeal for help to save this dying race, particularly by teaching them trades, so that they may become self-supporting.

Rivista Neurologica. Periodico Mensile per i Medici Pratici. Edited by Dott. CAMILLO NEGRO, Professor of Neuropathology of the University of Turin. Via Quattro Marzo, 11. Torino.—We have received the second number of the first year of this new periodical, devoted to the study of nervous diseases. The editor, in an address to readers, claims to be the first in Italy to refuse to accept for insertion the advertisements of foreign pharmaceutical firms, and on the strength of this he appeals to the medical profession for adequate support. The current issue contains an article by Dr. A. Salmon, of Florence, on the mechanism of hysterical phenomena. The most prominent factors he considers to be the importance of the emotions, the impulsive and plastic power of the ideas whereby they are translated into corresponding acts or into bodily phenomena, such as are rarely observed under normal conditions, the special suggestability of the patients, and, lastly, the purely automatic mechanism by which hysterical acts are manifested—i.e., the indifference, disinterest, and adaptation shown by patients towards their illness almost as if these interfered with functions which did not belong to their own personality. The editor continues a paper which was commenced in the first number on his method of re-educating movements in tabetics by means of exercises with bandaged eyes. Dr. Roasenda makes a communication on certain forms of post-hemiplegic tremors, and the present number concludes with a report of the meetings of the Piedmontese Neurological Society.

AN OFFER OF A MEDICAL LIBRARY.—The Hunterian Society has decided to part with its library of medical and some scientific works. The collection was formed during the first half of last century, with later additions, and includes ancient medical classics, some rare volumes, and many large atlases and other illustrated medical works, besides series of transactions and journals. There are approximately 3000 volumes, and the original cost to the society is said to have been about £3000. The society would like to give the books to a medical faculty or college which is desirous of forming a library. Further particulars will be found in our advertising columns.

THE

BRITISH MEDICAL ASSOCIATION.

EIGHTY-SECOND ANNUAL MEETING AT ABERDEEN.

ON Friday, July 31st, the Degree of Doctor of Laws *honoris causâ* was conferred by the Senate of the University of Aberdeen upon Dr. Archibald E. Garrod, physician to St. Bartholomew's Hospital; Sir John Bland-Sutton, surgeon to the Middlesex Hospital; Mr. T. Jenner Verrall, chairman of the Representative Body of the British Medical Association; Mr. William Thornborough Hayward, honorary physician to the Adelaide Hospital; and, *in absentia*, upon Sir Victor Horsley, consulting surgeon to University College Hospital. The special graduation ceremony was held at mid-day in Marischal College.

The forty-fifth annual breakfast by the Scottish and National Temperance Leagues to the British Medical Association took place on Thursday morning, July 30th, when a large company was presided over by Mr. A. P. Forrester-Paton, President of the National League, in Trinity Hall, Union-street. Those who also addressed the gathering were the Lord Provost of Aberdeen, Mr. John Turner Rae, Sir John Collie, Mr. W. McAdam Eccles, Dr. Alexander Scott, and Mr. T. H. Bickerton. The Chairman, in the course of his welcome to the medical guests, said that temperance reformers were delighted that the searchlight of science had been brought to bear upon this movement. The wider the scope of investigation and the keener the criticism the better it would be for the cause of temperance.

The annual dinner of the British Medical Association was held in the Music Hall on the evening of July 30th, when Sir Alexander Ogston, President of the Association, occupied the chair, and was supported by a company of nearly 400. After the loyal toasts had been honoured, Mr. T. Jenner Verrall proposed "The City and University of Aberdeen," remarking that the health of each meant the prosperity of the other. Lord Provost Maitland replied on behalf of the city, and Principal George Adam Smith on behalf of the University. In the course of an eloquent historical review of the medical worthies of Aberdeen, the Principal pointed out how many of their number had combined with the faithful performance of their medical duties the cultivation of the Muses. Long might this be so, he said, amid applause, for literature had that to give to medicine, and medicine had that to give to literature, which neither could derive from any other source. The toast of the British Medical Association was submitted by the Bishop of Aberdeen and Orkney in terms of warm appreciation for the work of the medical profession, and was suitably acknowledged by Dr. J. A. Macdonald, chairman of Council, and by Mr. W. T. Hayward, chairman of the Australian Federal Committee, who uttered a warning against the dangers of commercialism in medical practice. The health of the guests was proposed by Dr. John Gordon and responded to by Professor Nicol, moderator of the Church of Scotland, and Professor Pontoppidan, of Copenhagen. The concluding toast, that of the President, which was proposed in memorable phrases by Sir William Osler, was

honoured with much enthusiasm and to the music of the pipers. A very enjoyable evening closed with Sir Alexander Ogston's acknowledgment and the singing of "Auld Lang Syne." Dr. William Brown, honorary secretary of the dinner committee, must be congratulated on the success which attended his efforts. During the course of the evening the Ulster cup, which is yearly competed for by medical golfers upon some course adjoining the seat of the annual meeting, was presented to Dr. D. Barty King, of London, this year's winner.

On July 30th Sir Alexander Ogston was entertained at the Grand Hotel to luncheon by his former house surgeons and dressers at the Aberdeen Royal Infirmary. Sir James Porter, late Medical Director-General of the Navy, presided over a company of 80, and proposed the health of their guests in affectionate terms. He said that Sir Alexander Ogston was the first pioneer of distinction to deal with the medical conditions prevailing in the navy and army in modern times. That work had been done without fee or reward, but the rich experience gained by their guest in the Soudan and in South Africa, and so ably presented before the Royal Commission on the Army and Navy, had certainly led to the present excellent state of affairs in the medical services of the Crown. Sir Alexander Ogston, on rising to reply, was enthusiastically received. He spoke of the strong and lasting attachment cherished by its graduates for the University of Aberdeen, in spite of the somewhat cold and hard manner in which, like all Scottish Universities, it dropped them out of the nest directly they were fledged. He modestly suggested, amidst cries of dissent, that although it was delightful to have nice things said about one, they were that day expressing their kindly feelings towards the old university of which he was just the symbol. The gathering broke up after Sir William Milligan had proposed the health of the chairman, who in turn thanked the honorary secretaries of the luncheon, Dr. Cook and Dr. Sinclair.

On Wednesday morning three Church services were held, the official ceremony taking place in the West Parish Church. There were good congregations also at the Episcopal Cathedral (St. Andrews) and at the Catholic Cathedral (St. Mary's). The procession from Marischal College to the West Parish Church was watched with a good deal of interest by Aberdeen residents. The magistrates and members of the town council were in their official robes, and the members of universities wore academic dress. During the services collections were made on behalf of the Royal Medical Benevolent Fund.

It is generally agreed in Aberdeen that not since the great gathering at the celebration of the quatercentenary of the University eight years ago has there been such a big assembly at a social function in the city as was seen on the evening of July 29th in Marischal College, when the University authorities entertained the medical visitors and many others at a reception. The academic costumes worn by a large proportion of the men present quite filled the eye, making the ladies' dresses seem drab by contrast. Other occasions on which academic dress was worn were the President's address on July 28th, the three religious services on July 29th, and the graduation ceremony and reception by the Aberdeen branch of the Association on July 31st. A social function which was much appreciated was the large garden party given by the Lord Provost, magistrates, and town council in Duthie Park on the afternoon of July 29th.

The first visit of the Association to Aberdeen was a great success. The local and central arrangements were excellently organised and a generous measure of hospitality was provided by the medical profession of Aberdeen and neighbourhood, by the University and civic authorities and many other public bodies, as well as by private individuals not immediately connected with medicine. As in former years, it is our pleasant duty to conclude these brief notes with an acknowledgment of the courtesy and assistance shown to our representatives by the editorial and executive staffs of the British Medical Association and by members of the local medical committee.

ANNUAL REPRESENTATIVE MEETING.

THE Annual Representative Meeting of the British Medical Association opened in the Mitchell Hall of the Marischal College, Aberdeen, on Friday, July 24th, and continued until the following Tuesday. Mr. T. JENNER VERRALL presided.

At an early stage Principal GEORGE ADAM SMITH and the President-elect, Sir ALEXANDER OGSTON, K.C.V.O., attended to welcome the representatives to Aberdeen, and Principal Smith had a special word of greeting for those old students of medicine in Aberdeen who found themselves once more in their *alma mater*.

Financial questions and many matters of detail concerning the business of the Association occupied practically the whole of the first day, The treasurer, Mr. E. Rayner, accepted a suggestion that now the increased subscription had placed the Association in a better financial position the wages of the office staff should be revised. At the same time he defended the administration from charges of extravagance, and denied that unpaid subscriptions or subscriptions in arrear represented an unduly large sum.

The Chairman of Council accepted a proposal that it be referred to the Council to consider what steps were necessary to secure that the British Medical Association should become a federation of medical bodies formed for the purposes of special sections of the profession. There was a somewhat desultory discussion with regard to the conduct of the *Journal* of the Association, but ultimately the report of the Journal Committee was approved.

Strong sympathy was expressed with the petition to Parliament of Sir Ronald Ross for remuneration for his services to the Empire in connexion with the discovery of the cause of malarial fever, and a resolution on the subject was ordered to be sent to the Chancellor of the Exchequer.

The meeting adopted the following resolution:—

That every medical practitioner who contributes to or in any way assists in the preparation of any publication on medical subjects intended for the use of the public must hold himself responsible for any undue or improper advertising that may take place in connexion with such publication, and also for the scope and distribution of the work.

The Representative Body reaffirmed its support of the State registration of nurses, and instructed the Council to confer with the British Dental Association as to the best means of combating the evils of unregistered dentistry.

The second day was devoted to the consideration of the proposed establishment of a special fund to protect the interests of the profession, and with this the correlated question whether the fund should be administered by a trust or a trade union. It did not take the meeting long to decide that a fund should be formed; the dissentients were largely out-voted. The suggestion that the administration should be in the hands of a trade union, however, found little support, and attention was concentrated on a proposal that a trust method should be adopted, members of the Council of the Association to act as trustees. The difficult point in this connexion was whether the funds of a trust would be as safe from attack as are those of a trade union, and on this point the solicitor, Mr. W. E. Hempson, laid it down that it was not registration that made a body a trade union,

and his view, supported by other opinions of great weight and authority, was that an unregistered body which exercised the powers of a trade union could plead Section IV. of the Trades Disputes Act and could get protection under it. On this assurance the meeting decided upon the trust method of administration, and a provisional committee was formed to take the initial steps to establish the fund.

A model scheme submitted by the Council as the basis upon which arrangements for the treatment of school children could be accepted by the profession encountered considerable opposition because representatives of the metropolis said that better terms than those the Council declared should be the minimum had been obtained in London, and they did not want a standard to be fixed which was below what had already been secured. The difficulty was overcome by describing the model scheme as the "minimum" policy of the Association and pledging support to local schemes which might be superior.

National Insurance business was taken on Monday, when a model scheme for the treatment of tuberculosis was considered. Relations with staffs of voluntary institutions proved a point of difficulty, but the principle was laid down that public money received for treatment in voluntary institutions should belong to the medical staffs, to be disposed of as they decided.

In regard to the proposed federation of panel committees in coöperation with the British Medical Association, as the constitution of the proposed new body had not yet been approved by its constituents, it was agreed to hold a Special Representative Meeting to consider this question in order that the matter might not be delayed 12 months.

The Non-panel Committee brought forward a resolution that "contracting-out" with practitioners not on the panel should be facilitated. The promoters explained that they only wanted to meet individual cases of hardship, but the meeting did not give sufficient support to the motion—a two-thirds majority being required. Urgent representations were made by the profession in Wales that such a resolution would be taken advantage of by medical aid institutes.

On Tuesday the atmosphere of debate became charged with excitement when Mr. R. M. BEATON (St. Pancras and Islington) invited the Representative Meeting to re-state the view it expressed 18 months ago that the Insurance Act was "derogatory to the profession and against the public interest." The mover described this resolution as an olive branch held out by the non-panel practitioners, and he appealed to the meeting to come to a definite decision, one way or the other, on the question. Subsequent speakers, however, declined to accept the resolution as a peace-offering, and condemned it in unmeasured terms as an insult to that half of the membership of the Association that had accepted service under the Act. Mr. C. G. MEADE (Scarborough and York) eased the tension by an amusing and terse summing up of the position. "Let bygones be bygones," he said, and added plaintively, "What is the use of digging up the corpse and giving it oxygen?" Following the laughter which greeted this sally, Dr. J. A. MACDONALD (chairman of Council) moved that the meeting proceed to the next business, and this was carried.

It was decided to consult the contributors to the Special Defence Fund raised during the Insurance Act campaign and then to close the fund.

Resolutions defining the position of the profession on various points of difficulty in connexion with insurance administration were passed.

Dr. WALLACE HENRY (Leicester) proposed a resolution urging panel committees to make a regular examination of chemists' accounts. He declared that if this were done it would be found that very little foundation existed for charges against the medical profession of extravagant prescribing; the fault lay with the anomalies of the drug tariff. The resolution was adopted.

Resolutions were passed approving generally of the Budget proposals for the establishment of centres of coöperation for practitioners on the panel, provision of nursing aid and clinical laboratories, and it was laid down that the staffs of voluntary institutions could not be expected to treat as charitable cases persons on whose behalf the State made a contribution, also that the clinical arrangements should be administered by a new authority composed of representatives of insurance and public health authorities with representatives of panel committees and the local hospitals, or be administered by the Insurance Committees strengthened by the addition of representatives of the other bodies named.

The scheme for the establishment of a Scottish office of the Association was approved; there was some competition as to the city in which it should be located, but it was decided ultimately that Edinburgh should be selected, being both the seat of government and the headquarters of the Insurance Commissioners for Scotland.

THE SECTIONS.

MEDICINE.

WEDNESDAY, JULY 29TH.

President, Professor F. J. SMITH (London).

Dr. HARRY CAMPBELL (London) opened a discussion on

Headache.

He defined headache as pain felt anywhere within or above the base of the cranium, and spoke of the structures contained within this area as the "cephalic area." He referred to the numerous cephalic conditions which might occur in association with headache (such as a feeling of pressure or constriction, heat, cold, irritation, numbness, bursting), and which the patient might find difficult to dissociate from the actual pain. He endeavoured to explain why headache is the most common of all pains. Cephalic structures are liable to disease—for example, from within and without. The aponeurosis especially is a site of sensory changes—e.g., pediculi; similarly, undue traction of the hair or hard hats. Other causes are proximity to the fifth nerve, nose, eyes, and mouth; abdomino-parietal viscera from the vagal sensory fibres, and the clinical association of the special sense centres. In dealing with the classification of headaches, he contended that it was impossible to make a satisfactory classification of headaches according to their symptomatology, that the wiser plan was to regard headache as a symptom and to base our classification of headaches upon causation. Among the causes he mentioned organic disease, external irritation, and reflex causes. Amongst causes, too, he emphasised morbid blood states. Special mention was made of the part played by defective digestion in stomach, liver, and bowel in the causation of headache, and the speaker insisted upon the importance in cases thus arising of regulating the diet. The best diet was one the patient could best digest, the golden rule being to eat moderately of simple food, and to chew it thoroughly, especially the farinaceous portion of it. Some sufferers from migraine were improved by diminishing the amount of animal food consumed, but in most cases the better plan was to reduce the carbonaceous input, especially starch and sugar. Dr. Campbell insisted that the idea that animal food is injurious to man is altogether groundless, the fact being (as he had elsewhere contended) that man owes his present exalted position in the animal scale to his carnivorism, for it was the search after animal food which led man's anthropoid precursor to abandon the arboreal for a terrestrial life, and it was the condition entailed by a hunting career which determined the evolution of the anthropoid into man. He pointed out that until quite recently in man's evolutionary career his supply of sugar was limited to wild honey, and his starchy food to what he could obtain from the uncultivated vegetable kingdom, and that in point of fact the present-day physician had more to fear from an undue consumption of sugar and ill-masticated starchy food than from an excess of animal food.

Dr. C. O. HAWTHORNE (London) was sceptical as to the use or meaning of the term "alimentary toxæmia." He referred to the value of leeches applied over the temples for headache, and also noted the importance of a careful ophthalmoscopic examination and in some cases an analysis of the cerebro-spinal fluid as well. Such routine would favour the early diagnosis of headache due to cerebral tumour or increased intracranial pressure.

Dr. L. H. PEGLER discussed the subject of headache from the rhinologist's standpoint, stating that the term "nasal headache" might be used if it were kept in mind that no pain in the head was characteristic of any one nasal lesion; also that some headaches were nasal in a partial sense only because they arose indirectly from the nasal source—i.e., through the intervention of blood changes. He

touched upon headache which was oculo-nasal in character owing to the dual distribution of the ophthalmic nerve, when the rhinologist often held the key to the situation, because neither headache nor eye affection would disappear till the nasal lesion were treated. The speaker classified nasal headaches into (1) those due to non-inflammatory causes—direct pressure of hard surfaces, as, e.g., septum against turbinate, middle or inferior; (2) chronic inflammatory—degeneration of mucous membrane—soft contacts, with obstruction; and (3) an inflammatory group including the various forms of rhinitis. After reviewing the diagnosis, mechanism, and treatment of nasal headache, the speaker concluded by alluding to the value of the submucous resection of the septum as conservative of the turbinates and highly effective in reducing pressures and obstruction.

Dr. F. C. EVE (Hull) said that too high pressure of the cerebro-spinal fluid caused headache, as did also sometimes too low a pressure, seen, for example, in the headache which occasionally follows the withdrawal of the fluid. Neuritis of the occipital nerve may cause headache. Such a condition could be detected by the presence of areas of tenderness and anæsthesia over its distribution. He referred to an intractable case of this nature which yielded to salicylate ionisation continued for three months.

The PRESIDENT alluded to the value of mercury in headache due to syphilis, especially when given by inunction.

Dr. CAMPBELL briefly replied.

Splenectomy.

Dr. J. S. MCKENDRICK (Glasgow), in opening the discussion, referred briefly to the functions of the spleen. It acted to some extent as a scavenger of the blood, enabling it, too, to retain its due proportion of iron. On occasion, however, such as after its removal, the lymph glands can equally well take up its duties. The earlier operations of splenectomy were associated with a high death-rate. Previous to 1886 the mortality in a series of cases was 70 per cent.; after this time, with improvement of technique, it fell to 16 per cent.; and lately in a series of 27 cases reported by Giffen only 7·4 per cent. died as the result of the operation. In relation to splenectomy for splenic anæmia, the important point was to operate early; when the Banti syndrome had set in, with its liver changes and the ascites, the death-rate was much higher. In certain cases of secondary anæmia removal of the spleen may be followed by good results. In all severe anæmias it is of value to examine the condition of the bone marrow. He mentioned in detail the clinical features of a case of splenomegaly in a child aged 8. The blood count immediately following the operation of splenectomy was striking. The red cells increased from 2,500,000 to 4,650,000 the day afterwards, and the white cells rose to 34,000. Later no further marked changes in the blood occurred and the patient was quite well two years afterwards.

Professor Ll. C. P. PHILLIPS (Cairo) referred to the value of benzole introduced by Pappenheim. In a series of 8 cases 6 did very well. In a series of 25 cases of leukæmia also there were 21 good results, and this applies also to cases of lymphatic leukæmia. The spleen in these cases becomes appreciably smaller. Some caution is necessary in giving the correct doses of benzole. It is possible to work up to 6 grammes, and this was done, on one occasion in a child aged 10. He gave some details of a case which he claimed was one of Banti's disease in association with diabetes. There was ascites, and the sugar in the fluid reached 0·5 per cent.; in the urine there was 2 per cent. of sugar. At the necropsy the liver showed well-marked cirrhosis, and the spleen weighed 460 grammes. In Egypt, Professor Phillips mentioned, splenomegaly was very common, and they were accustomed to class such cases as Banti's disease.[1] No organism could be found in them. The indications which they followed as regards treatment were three: (1) never operate if the liver appears to be involved; (2) improve the anæmia as much as possible before operation, if due to ankylostoma remove the parasite first; and (3) do not operate if there is a high degree of leucopenia.

Professor Sir WILLIAM OSLER (Oxford) said that clinical experience had enabled the profession to recognise certain groups of cases in which splenectomy could be done and other groups in which it was contraindicated. In the latter class should be placed all cases of leukæmia; no good results had followed here; also cases where the spleen is enlarged but there is also disease of the liver; and in syphilitic enlargements of the spleen. As regards the latter group, however, it was possible that splenomegaly of congenital specific origin in children might be successfully treated by splenectomy. Splenectomy is indicated in the following three types of case. 1. Where the spleen is enlarged for years but associated with good general health. The benefit of operation accrues because such cases, if untreated, often go on to a chronic anæmia; there may also be leucopenia, enlargement of the liver, and even jaundice and ascites. 2. In some cases of Banti's disease. 3. In children in those cases in which the splenomegaly was acute and progressive. There remained, in conclusion, a doubtful series of cases in which removal of the spleen may do good, such as some progressive forms of pernicious anæmia, Addison's disease, hæmolytic jaundice, kala-azar, and primary tuberculosis of the spleen.

Dr. EDGAR LEA (Manchester) referred to some experimental observations performed upon mice in whom the spleen was removed. The experiments were published in the *Journal of Experimental Medicine*. Mice were inoculated with tubercle bacilli, with the result that they quickly succumbed with general diffuse tuberculous infection throughout the body: a similar proceeding, however, done upon mice whose spleen had been previously removed resulted in a much less severe bacillary invasion. In them the tuberculous foci remained localised, showed little tendency to general infection, and in some animals actual recovery resulted. Similar experiments performed upon cats and dogs, however, were negative. It would probably form a valuable line of research if the properties of the blood were examined in patients both before and after the spleen was removed.

Dr. MCKENDRICK briefly replied.

THURSDAY, JULY 30TH.

Dr. RIST (Paris) opened a discussion on

Artificial Pneumothorax.

After referring to a few points in the technique of the operation, in which puncture has wholly replaced Brauer's incision method, he stated that accidents were infrequent, and he had never yet seen air embolism, so often suggested to be a dangerous complication. Spontaneous pneumothorax was often severe and sometimes fatal. When this is the case it was found that the opposite lung was diseased and the patient died from asphyxia. Improvement occurred if the opposite lung was sound. Thus, all depended on this lung. In the selection of cases suitable for the induction of pneumothorax it is, said Dr. Rist, important to ascertain the condition of the unaffected side. Strictly unilateral disease never occurs. If there is active disease auscultation and percussion alone are insufficient; these methods must be associated with X rays. For instance, deep-seated cavities may miss detection, and râles heard at the apex of a supposed diseased side may in reality be transmitted from disease of the other apex, especially if there is a big cavity. X rays may assist in telling us if disease is active; for this purpose it is necessary to compare plates at successive periods. If all such are identical the lesion is probably fibrotic. The conditions requiring pneumothorax are the following: 1. In severe cases of tuberculosis improvement may follow in a case otherwise hopeless; not seldom cure occurs. 2. Where there are cavities not curable by sanatorium or tuberculin treatment. Cavities limited to one side of the chest are common. It is also certain that they are much more common than auscultation and percussion would have us believe. X rays may find cavities not demonstrable from physical signs. Cavitation, too, may be an early lesion in tuberculosis, the destructive processes being limited for years. These cases are suitable for pneumothorax. 3. In some cases of caseous pneumonia pneumothorax may give a chance to an otherwise hopeless case. Dr. Rist had had several successes. The operation is easy, as there are no adhesions. It may be difficult to cause collapse of the consolidated lung. In these cases it is important to operate early. 4. In cases presenting not extensive but frequent hæmoptysis, pneumothorax may be indicated, even whilst the hæmorrhage is actually taking place. With regard to complications to pneumothorax, Dr. Rist stated that it was often almost impossible to tell whether adhesions would or would not prevent collapse. Pleural effusions occurred in 50 per cent. of cases when

[1] THE LANCET, March 7th, 1914, p. 696.

pneumothorax had been done; this figure, however, included small and transient accumulations. The fluoroscope showed them beautifully at the costo-diaphragmatic space. The quantity was usually about half an ounce; the effusions usually went or they might be tapped. Usually they developed a few weeks or months afterwards. In many instances, said Dr. Rist, these effusions produce no effects; when there is much fluid it is not possible to inject so much nitrogen; the gas can, however, be injected at longer intervals. Withdrawal of fluid is indicated when the pleural cavity is more than half full or when there is displacement of the heart. In such cases the fluid may be removed entirely together with a nitrogen injection. The fluid always contains a few tubercle bacilli; there is also eosinophilia. Pleural effusion is not a serious complication. Dr. Rist concluded by remarking that pneumothorax was not only a powerful weapon for good, but also that it afforded a promising field for scientific research. It is possible, for example, to determine changes in states and dynamic relations of the chest organs. The movements of the diaphragm showed valuable modifications. There was inspiratory displacement of the heart to the pneumothoracic side of the chest. The amplitude of the heart-beats, too, was increased on the pneumothoracic side, but there appears to be no effect upon the diastole of the heart. Finally, spirometric observations could give useful information.

Dr. H. DE C. WOODCOCK and Dr. J. A. M. CLARK (Leeds), speaking of experience of many cases in a paper on this subject, referred to some of the practical considerations of the operation of pneumothorax. The point of selection is, they said, in the axillary line over a resonant area. Of accidents there are few: air embolism they have never met; oscillations of the manometer indicate entry of the needle into the pleural cavity. Sometimes shock may be present; there may be cyanosis and pain. The removal of some gas from the pleural cavity may relieve the condition. Oxygen may be given instead of nitrogen in some cases. With frequent repetitions the site of the tapping must be changed. For hæmoptysis the writers favour pneumothorax in some cases.

Mr. G. LUCAS (Banchory) remarked that the name pneumothorax was unfortunate, as patients, often retrospective, were apprehensive of the operation. He suggested the name "nitrogen compression" might be more suitable. Favouring the operation in selected cases, he referred to such as being those in whom, in unilateral cases, sanatorium treatment for four months had been of no marked avail.

Dr. EVE referred to the fact that after pneumothorax had been induced in a febrile case there may occur some increase in the extent of the tuberculous processes on the sound side. He mentioned some points which allow one to simplify the apparatus on emergency, even on occasion dispensing with a manometer.

Dr. CLIVE RIVIERE (London) remarked the difference of attitude adopted by British physicians as compared with physicians on the continent to the operation. In this country much too little had been done. One-sided lung lesions were more frequent than imagined if carefully sought for. In a caseous case with extensive cavitation on one side a partial pneumothorax was done. In two days râles appeared on the sound side and the patient died from pulmonary œdema. This was a complication due, he thought, to possible circulatory embarrassment. At the operation he favoured in the first instance the use of a blunt cannula.

Dr. W. M. CROFTON (Dublin) disagreed with Dr. Rist's statement that cavities could not heal, and with the view that the caseous types of tuberculosis were necessarily fatal. Most lung conditions were mixed infections, and this explained the inefficacy of tuberculin as regards prolongation of life.

Professor Sir W. OSLER emphasised the value of Dr. Rist's work on the subject. Effusion in pneumothorax, he said, is probably due to lung puncture; effusion is, indeed, always associated with spontaneous pneumothorax. The pulsating pleurisy is explained by the increased extent of the cardiac movements on the pneumothorax side, which Dr. Rist referred to, as seen in the X rays.

The PRESIDENT thought that sufficient stress was, perhaps, not laid in the discussion upon the symptoms, and chief emphasis had been laid upon the physical signs.

Dr. RIST replied.

Rheumatoid Arthritis: Comparison of Medical and Surgical Standpoints.

Dr. D. DURWARD BROWN (Harrogate) referred to his experiences in treatment. Amongst other remedies, such as guaiacol, he had found benefit accrue from blistering of the spine, and, better still, ionisation. He did not consider surgical interference was necessary in many cases.

Dr. G. H. ALMOND (Bath) suggested that though the earlier cases were best treated by the physician, there was also a borderland where physician and surgeon should meet—namely, in cases where there was fibrosis. Manipulation in such cases should be left to the orthopædic surgeon. He emphasised the importance of a full examination of all the joints.

Dr. C. O. HAWTHORNE (London) felt sceptical as to the benefits suggested in many cases of rheumatoid arthritis. He felt that physicians at our spas were, by the nature of the place and the type of patient whom they treated, at a considerable advantage as compared to many practices where experience emphasised a greater degree of intractability.

Some Points in the Course of Epilepsy.

Dr. ALDREN TURNER (London) read a paper on this subject. He said that the treatment of epilepsy remained rather unsatisfactory. Investigation had shown that 50 per cent. of cases were unaffected by bromides; of the remainder, in 25 per cent. the fits were kept in abeyance. In Dr. Pierce Clark's experience, some cases of epilepsy appeared to be cured without bromides. The earlier the onset of the fits under the age of 5, the greater the probability of mental failure. The most favourable types of cases are the following: (*a*) when the commencement of the disease lies between the ages of 16 and 20 years, if good hereditary history or if there is an obvious exciting cause; (*b*) infrequency of fits; (*c*) absence of mental impairment or well-marked stigmata of degeneration; and (*d*) when the fits begin between ages of 40 and 45 in absence of organic nervous disease or alcohol. There is difficulty in defining what is meant by cure; most satisfactory, perhaps, is it to limit the term to the condition of the patient being such as allows him with reasonable comfort and safety to earn his living. Mere number of fits is less satisfactory as a basis of opinion. When mental symptoms supervene the prognosis is graver; when some degree of dementia is present amelioration is seldom possible. The effect of epilepsy upon the mental qualities is serious. In Chalfont, for instance, only 13 per cent. of the patients are mentally normal; in Craig Colony only 17 per cent. There may, in conclusion, be all forms of mental defect—from simple loss of memory to dementia.

Acute Atrophy of the Thyroid Gland.

Dr. F. C. EVE related clinical details of a case of a woman, aged 40, who for six years had typical exophthalmic goitre. During this time she had shown great variation in the character of her symptoms. For the last three years of her life she had been subject to influenza each spring, followed on each occasion by a week or two of "thyroid fever." Her last illness began with follicular tonsillitis, and ended after 17 days with lobar pneumonia. On the fourteenth day diarrhœa and vomiting started. Next day the thyroid gland, which had previously been conspicuous, measuring 4 inches across, was noted as very small, and for several hours before death it was impossible either to see or feel any trace of it. No post-mortem examination was made. It was suggested that cytolysis of the gland must have occurred similar to that in acute yellow atrophy of the liver. Dr. Eve mentioned a similar case under the care of a medical friend.

FRIDAY, JULY 31ST.

Chronic Pulmonary Tuberculosis in Children.

A combined discussion was arranged upon this subject, in which the sections of Medicine, Electro-therapeutics and Radiology, and Diseases of Children took part. Dr. F. J. SMITH (President of the Section of Medicine) occupied the chair.

Dr. DAVID B. LEES (London) opened the discussion. He remarked at the outset the importance and practical value of determining the presence of tuberculosis in children. For this purpose he laid particular stress upon the value of percussion and auscultation, with the findings from which should be associated the results of radioscopic examination. It is important to secure relaxation of the muscles covering

the thorax and to offer suitable counter-resistance. Percussion should be light, not heavy. When this is correctly and carefully carried out, qualifications upon which Dr. Lees laid considerable stress, he maintained that it was possible to map out with considerable accuracy certain areas of dulness if tubercle was present. These are, he said, situated in the apices over areas close to the roots of the lungs, and at sites distributed near the apices of the lower lobes. (These positions were demonstrated on a diagram.) It is usual to find the earlier signs on the right side; in no cases have signs been of greater intensity on the left side when both sides are affected. The explanation of the fact is obscure, but probably rests upon anatomical grounds, concerned particularly with the pulmonary artery. X ray confirmation of the conditions suggested by these signs is positive in practically all cases. For the latter method of examination Dr. Lees laid emphasis upon the need for plates; the screen alone often failed to give good results. The drawback of the X rays in this relation is, he said, that they do not give reliable information as to whether the disease is active or latent. For this purpose it is of value to estimate with care, at repeated intervals of time, the area of dulness. This may be measured in a readily practicable manner by fingerbreadths. When the area is increasing in extent the disease is advancing, and *vice versâ*. The signs of auscultation are less reliable—there may be prolonged expiration or, more often, deficient air entry. Consideration of percussion signs affords valuable data with regard to prognosis. It is possible, by keeping a chart of the patient's physical signs, to form an opinion as to whether the disease is advancing or receding. Dr. Lees exhibited diagrams which showed lessening of dulness at definite areas in a clinical case in which progressive improvement occurred. He further said that in some clinical cases, though weight might be increasing and the general condition apparently good, the extent of dulness might nevertheless be increasing, and if this were the case, despite the general apparent wellbeing, a guarded prognosis must be given.

Dr. CLIVE RIVIERE, after referring to the value of Dr. Lees's observations, suggested that they required considerable care for their detection, and that many of the signs occurred in patients, usually adults, but in whom there was no reason to suppose the disease was active. Also, there were other general signs which might often give useful information. He stated that it was advisable to consider apical tuberculosis and hilus tuberculosis as clinically very distinct conditions; the latter was essentially tubercle of the lymph glands, which, as it happened, was situated in the thorax. In the latter condition it is not necessary, said Dr. Riviere, to wait for the presence of râles before tuberculosis can be diagnosed; indeed, râles heard over the root area are uncommon. Dr. Riviere described a new sign which he had not seen hitherto noted, and which he believed to be of some assistance in the diagnosis of hilus tuberculosis. This was an area of impaired resonance extending outwards from the vertebral line mainly to the right at the level of the fifth to eighth dorsal vertebræ. Its outward border may be well defined and reaches several inches from the middle line. In spite of all methods of examination, however, he thought that there remained a considerable number of cases in which diagnosis appears to be rather uncertain.

Dr. IRONSIDE BRUCE (London) mentioned some points concerning the X ray evidence. He agreed with Dr. Lees in that it was essential before coming to a diagnosis to consider not only the X ray findings but also the clinical symptoms. He thought that with the X rays much information could be gained by screening as well as by the photographic plate. In some instances he believed it possible to suggest from the X rays whether the disease was active or latent.

Dr. D. LAWSON (Banchory) asked for some information from the radiologist. He wanted to know what value was attached to the method of transillumination which lighted up with inspiration certain dull areas; also limitation of the extent of diaphragmatic movement was in adults a valuable suggestive sign of tuberculosis in some cases; this was especially the case on the right side. Did the different relative diaphragmatic movements in children affect the inferences which might be drawn from such limitation as it occurred in adults?

Dr. C. MCNEIL (Edinburgh), commenting on the frequency of the signs of tuberculosis as stated to be found by physical signs, suggested that such evidence pointed to tuberculosis being universal, but upon this point the tuberculin test did not give wholly unequivocable confirmation.

Dr. F. LANGMEAD (London) confessed that as yet an assured diagnosis of chronic pulmonary tuberculosis was still difficult of attainment. The results of tuberculin tests could not be taken as affording conclusive evidence as to the general incidence of tuberculosis.

Dr. EVE referred to the suggestion made that the presence of small enlarged lymphatic glands in the neck indicated apical tuberculosis. His own observations went to prove that no such relation was present. In his own clinical experience in connexion with a children's hospital some of the cases suspected of root tuberculosis were taken in as in-patients and treated as tuberculous patients. They invariably improved, but one always felt in one's own mind some doubt as to whether the diagnosis was correct in so far as being sure that definite active tuberculous mischief was really present. These cases never came to the post-mortem room. In a few cases in children he had seen typical caseous general tuberculosis; this was, however, infrequent.

Dr. BARTY KING (London) criticised the views put forward by certain radiologists that tuberculosis of the lungs spread from the lymphatic glands at the roots. He thought it more probable that the lymphatic gland infection was often secondary. He mentioned the features emphasised by the radiologist in this relation—namely, the striations radiating out from the root and which are held to be indicative of peribronchial thickening of tuberculous origin. As it happened, a case of this nature which had shown this condition by X rays came to necropsy. A careful examination was made of the lungs and the peribronchial tissues, but no trace of tubercle could be found. The very careful pathological work of Ghon (Prague) was also opposed to the lymph gland origin of pulmonary infection. The work of this authority he was at the present time engaged in translating.

Dr. F. J. SMITH said that they had heard a lot about physical signs but little as regards symptoms. He deprecated the instruction given to patients leaving sanatoria that they should take their own temperatures. He maintained that loss of appetite or lassitude constituted valuable indications.

Dr. LEES replied. He denied that tuberculosis was universal, and said that there were many people who did not present the physical signs to which he had directed attention. He deprecated the persistent administration of tuberculin, and narrated a case in which he claimed that its administration had been followed by disastrous results.

Transient Babinski's Sign and its Bearing on the Nature of Hysteria.

Dr. EVE said that it was known that Babinski's sign (extensor plantar reflex) when present in adults indicates organic disease of the pyramidal tract. There is, he said, only one group of exceptions to this rule—viz., that a fleeting Babinski sign is present during or after the coma, fit, or paralysis resulting from uræmia, eclampsia, epilepsy, or poisons such as alcohol, anæsthetics, &c. Consider, for example, a case of uræmic hemiplegia, showing a Babinski sign on one side and contrast it with a case of hemiplegia due to hysteria. Both are functional diseases, and yet one shows by the presence of a Babinski sign that the pyramidal tract is not doing its duty. Surely the conclusion is irresistible that in the hysterical hemiplegia the pyramidal tract is not affected, and that the seat of the hysterical paralysis is at some level higher than the pyramidal cells. He submitted that this piece of evidence exculpates the cord and pyramidal tract and incriminates the higher levels of the brain in hysterical paralysis. To show that this is not the current view he referred to the most recent neurological textbook he had (Judson Bury, 1912), which says: "Hysteria is a psychic disorder which is apt to produce disturbances in the spinal cord and sympathetic system." By Dr. Eve's thesis the spinal cord is entirely innocent. It may be urged that hysterical paraplegia is surely a spinal cord disease rather than a symmetrical bilateral cerebral monoplegia which otherwise has to be assumed. His thesis insists on the latter view. Moreover, to postulate symmetrical cerebral involvement in hysteria is by no means unreasonable. Finally, the fact that Babinski's sign is present for a few

hours after epileptic fits and never after hysterical fits may be useful in distinguishing the two diseases, especially in workmen's compensation cases.

ANATOMY AND PHYSIOLOGY.

WEDNESDAY, JULY 29TH.

The proceedings of the section opened by the members voting Professor J. A. MACWILLIAM (Aberdeen) into the chair. He then called on Dr. N. J. CALDER (Aberdeen) to read a letter from the President of the section, Professor R. W. REID (Aberdeen), regretting his inability to be present at the meeting. Professor MACWILLIAM then introduced the reporters to the meeting.

Dr. JANE I. ROBERTSON (Glasgow) read the first paper on

(1) *The Phylogenetic Development of the Bulbar and Ventricular Septa of the Heart.*

Some notes were given on the progressive development and association of the bulbar and interventricular septa in elasmobranch, dipnoan, reptilian, and mammalian hearts. These septa appear in association with a pulmonary system and the consequent need for the separation of the oxygenated and non-oxygenated blood-stream. The complete anatomical and physiological subdivision of the bulbus and of the ventricle is ultimately achieved in the mammalian heart.

(2) *Cardiac Malformations in which the Great Efferent Vessels arose from the Right Ventricle.*

Dr. Robertson reported two cases of cardiac malformation where the interventricular septum was placed on the left of the aorta and pulmonary artery, both the great vessels then opening directly out of the right ventricle. These specimens seemed to point to the conclusion that the closing of the interventricular septum round the left or the right side of the aorta was largely determined by which of two paths happened in the presence of other malformation to be the shorter.

Dr. IVY MACKENZIE (Glasgow) then read a paper on work done in association with Dr. Robertson entitled

Further Researches on the Anatomy of the Bird's Heart.

Dr. Mackenzie stated that although in earlier work they had not been able to show any specialised sino-auricular tissue or bundle of His in birds' hearts, he was now able to report that they had been able to demonstrate a definite muscular connexion between auricle and ventricle in the hearts of certain birds. Work had also been done by Dr. Mackenzie on

The Reptilian Heart and its Significance in the Interpretation of the Coördinating Muscular Systems in the Mammalian.

It was reported that in certain reptilia direct continuity was found from the sino-auricular node, round the left duct of Cuvier to the auriculo-ventricular muscle, but in higher reptilia it was not able to show any connexion between the sino-auricular ring and the auriculo-ventricular part. With regard to mammalian heart the auricular or governing tissue was spread out in a thin layer over the inside of the ventricle, it was contended that one part of the ventricle could not be said to contract before another.

In the discussion that followed Dr. T. LEWIS (London) took part, and Professor MACWILLIAM said a few words of appreciation of the type of work done by Dr. Mackenzie, especially in relation to its clinical application.

Professor MACWILLIAM read a most interesting paper, the subject of which was

Cardiac Fibrillation and its Relation to the Action of Chloroform.

It was pointed out that fibrillation occurred in two phases: at an early stage of chloroform administration, and at a final stage when the heart was dilated and exhausted. Great stress was laid on the fact that diminished sensibility seemed always to be associated with fibrillation, with or without dilatation of the heart. The acapnia hypothesis put forward by Young Henderson had been found not to meet the facts; but sudden administration or sudden increase in strength of the chloroform caused fibrillation. Cats seemed to be peculiarly sensitive in this respect. Nine out of 16 cats succumbed during light anæsthesia with intermittent administration of chloroform. The conclusion was warranted, therefore, that fibrillation caused early chloroform collapse in cats and probably also in man.

Dr. A. GOODMAN LEVY (London) agreed with the substance of Professor MacWilliams's paper, and was particularly interested in the fact that diminished excitability was associated constantly with fibrillation.

Dr. LEVY then read a paper on

Ventricular Fibrillation, the Cause of Death under Chloroform,

in which he criticised Snow's hypothesis that death under chloroform was due to overdose. On investigation it was found that out of 98 cases of death during chloroform anæsthesia, practically all the patients were described as being under light anæsthesia. It was concluded that there was no danger during chloroform administration provided the vapour was given in sufficient concentration and continuously.

Dr. G. S. MELVIN (Aberdeen) reported

Some Observations on Blood Pressure

made by himself and Dr. J. R. MURRAY (Aberdeen), and was warmly congratulated by Professor MACWILLIAM and Dr. J. M. MCQUEEN (Aberdeen) on the substantial and important results which they had obtained.

Professor MACWILLIAM read a paper on

The Regulation of the Heart Beat,

commenting on the influence of pressure, temperature, and nerve on the beat. Professor MacWilliam also showed tracings illustrating inversion of the vagus action.

Dr. LEVY and Dr. MACKENZIE took part in the discussion which followed.

Mr. J. A. STRICKLAND GOODALL (London) reported on

Some Instrumental Variations in the Human Electrocardiogram,

the observations being made with Mr. HEDLEY N. D. RICHARDS (London). Their researches were divided into three groups: (1) instrumental variations; (2) physiological curves with two Einthoven cardiographs and also with an oscillograph; and (3) pathological curves. It was pointed out how widely the tracings differed under varying instrumental conditions, and it was noted that the oscillograph was as reliable as the cardiograph.

Mrs. E. M. TRIBE (London) reported on some researches she had carried out on

The Existence of Vaso-motor Nerves in the Lungs.

In these experiments the lungs of various animals (cats, dogs, and ferrets) were perfused with defibrinated blood after the method of Brodie and Dixon, and the effect of adrenalin in different strengths noted on the flow through these organs. Great stress was laid on the facts that the defibrinated blood must be warmed, the animal must be kept in a bath of warm saline, and the pressure kept between 10 and 20 mm. Hg, so as to have the conditions as normal as possible. With the weaker solutions of adrenalin (0·002 mg. per cent. and 0·0002 mg. per cent.) a constriction showed on the tracings, followed by a dilatation. Strong solutions caused violent constriction only. The experimenter felt drawn on the whole to the conclusion that vaso-motor nerves were present in the lungs, the cause of conflicting evidence due to mistakes in technique—too high pressure being used and no notice taken of temperature.

Mr. GOODALL and Professor MACWILLIAM complimented Mrs. Tribe on her careful work, and Professor MACWILLIAM expressed his opinion that her paper was the most convincing he had heard on the subject.

THURSDAY, JULY 30TH.

In the absence of Professor Reid, Professor J. K. JAMIESON (Leeds) took the chair.

Professor WILLIAM WRIGHT (London) opened the proceedings by giving two papers. The first—

A Histological Study of the Alimentary Canal of the Elephant

—was illustrated by microphotographs. These sections included some of the tongue; one of the cardiac orifice showing a valve guarding that orifice, and the tunica muscularis mucosæ passing into the valve, and it was suggested that the purpose of the tunica muscularis mucosæ was to compress the glands and also to control the folds of mucous membrane; a section of stomach showing a lymph nodule, very like a Peyer's patch; one of the pylorus; one of the

duodenum; in this section it was pointed out that Brunner's glands were not outside the tunica muscularis mucosæ but were surrounded by a network of that tissue; one of the lower part of the duodenum in which the submucous coat showed a wavy white fibrous tissue containing large ganglia—these ganglia were also shown in sections of the rectum, and attention was drawn to the fact that both parts were particularly subject to reflex action; one of the cæcum showing the longitudinal muscular coat to be very poorly developed in this region; one of the ileo-cæcal valve showing great strength of musculature; one of the rectum in which the tremendous thickening of the longitudinal muscle was pointed out. A section of liver showed that the lobules were not as well marked as in man; it was suggested that being a primitive animal they should be better marked. In a section of pancreas the islets were perfectly distinct.

Professor WRIGHT went straight on to his second paper on

The Temporal Gland of the Elephant.

The temporal gland was taken from a young African male elephant. It was lobulated and had a duct, lined by cornified epithelium, which opened on the surface. The nature of the secretion of the gland was obscure. Elephant keepers associated its activity with a state of great excitement of the animal—probably a sexual excitement—and therefore it was suggested that it might be a secondary sexual gland. It had been described by John Hunter, but no previous microscopical account had been given. Professor Wright showed sections of the temporal gland and also of the nipple of the animal, and drew attention to the similarity between the structure of the nipple and that of the duct of the temporal gland. The ductules and tubules were lined by two layers of cells reminiscent of human mammary, sweat and lacrymal glands.

In the discussion which followed Mr. GOODALL thought it strange to have a lymph nodule in the stomach of the elephant, as they were generally more common in carnivora, and expressed surprise at not hearing that Professor Wright had noted lymph nodules in the rectum, as these were very common in herbivora. With regard to the temporal gland, Mr. Goodall had noted a set of superficial glands in mice in connexion with sexual organs. In his opinion the two-layered ductules looked more like sweat than mammary glands. He thought the section of liver showed autolysis.

Mr. R. J. GLADSTONE (London) asked from what part of the liver the section was taken, as he thought lobulation would be more marked in the centre than on the surface, but information could not be given on this point.

Dr. CALDER showed some

Rare Anatomical Anomalies,

including (1) an accessory thyroid gland lying behind the manubrium sterni and pressing on the trachea and œsophagus; (2) several varieties of falx cerebelli; (3) an example of the thoracic duct ending on the right side at the junction of the right internal jugular and right subclavian veins; and (4) an extra lobe in the right lung rather resembling an azygos lobe, but showing no groove for the azygos vein.

A discussion followed in which Professor WRIGHT accounted for the variations in the falx cerebelli by the fact that the brain develops first and the dura mater and cranium later, and any abnormality of the brain would lead to variations in both dura and cranium. He called attention to the fact that the thoracic duct in the elephant ended in the vena azygos major.

Mr. GLADSTONE demonstrated a specimen of

Congenital Absence of the Left Kidney,

associated with atrophy of the testis, vas, and vesicula seminalis of the same side; the testis showed a condition commonly found in undescended testis. The right kidney was enormously hypertrophied and its weight was double normal. Stress was laid on the fact that it was a pure hypertrophy, not a numerical increase of constituent parts. Microscopically the glomeruli were much larger and fewer in number in any given area than normal. Mr. Gladstone pointed out that there were three conditions under which one kidney only might be found: (1) congenital absence of one; (2) fusion of the two kidneys; and (3) atrophy of one kidney due to disease, and suggested that if such a condition be suspected cystoscopic and X ray examinations should be made, and it should be remembered also that these renal abnormalities were frequently associated with other abnormalities, such as atrophy of one testis, vas, vesicula seminalis, or one ovary and corresponding labium majus, or accessory auricles, club feet, and club hands. It was suggested that the condition was due to failure of the distal end of one Wolffian duct to join with the cloaca and the atrophy of the corresponding mesonephros.

In the discussion which followed Dr. T. K. DALZIEL (Glasgow) stated that when operating for suspected carcinoma he found two kidneys, one on top of the other and the two ureters parallel, on the right side of the body. The two organs had no structural continuity. He asked for information as to the cause of such an anomaly.

Mr. GLADSTONE replied that the condition was rare, but that such cases had been recorded. He could not suggest the cause.

Mr. GLADSTONE also demonstrated a specimen illustrating Complete Absence of the Appendix. There was no scar and no other abnormality. On opening, the cæcum presented a small oval lymph nodule at the usual site of the appendicular opening; the tæniæ of the large intestine converged to the usual place. Mr. Gladstone attributed the absence to arrested development.

A discussion followed in which Professor WRIGHT, Mr. GOODALL, and Mr. SIDNEY BOYD (London) took part.

Mr. BOYD read a paper entitled

A Note on a Congenital Anomaly of the Duodenum Encountered during Gastro jejunostomy.

It was reported that the duodenal-jejunal flexure was found at the usual situation, but on tracing the small intestine onwards from the pylorus it passed behind the hepatic flexure of the colon, and then, traversing the loin lateral to the ascending colon, entered the pelvis. It was suggested that the condition was due to defective rotation of the bowel.

Professor J. KAY JAMIESON (Leeds) demonstrated some very beautiful specimens of Injected Lymphatics.

The following papers were also read: (1) a note on the Relation of the Ureters to the Vagina; (2) Some Points in the Anatomy of the Diaphragm, by Dr. JAMES BRASH (Leeds); and (3) the Sympathetic System of a Full-time Fœtus, by Dr. GEORGE RIDDOCH (Aberdeen).

FRIDAY, JULY 31ST.

In the absence of Professor REID, Mr. GOODALL took the chair, and called on Dr. HUGH MACLEAN to read his paper on

So-called "Glycolysis" in Normal and Diabetic Blood, with Observations on the Estimation of Sugar in Blood.

After a few preliminary remarks Dr. MacLean demonstrated a new modified method of estimating sugar in blood. The main advantage of the method was the rapidity with which an estimation could be carried out. Small quantities (1 to 2 c.c.) of blood were used.

Dr. E. P. CATHCART (Glasgow) thanked Dr. MacLean for this new method, and asked him to exercise his ingenuity still further and find an indicator which would give a better end-point than that obtained when using permanganate alone.

Dr. E. S. EDIE reported on

Some Experimental Work on the Action of Enzymes,

and referred to some recent work by Bayliss and others on the subject, which suggested that all ferment action took place in two stages: (1) the union of the enzyme with the substrate; and (2) the digestion of the substrate and setting free of the enzyme. It was pointed out that these two stages were dependent on two separate properties of the enzyme, one of which might be lost and the other retained. Dr. Edie's own work dealt mainly with the first stages, and supported the view that union took place by various receptors or side-chains possessed by the enzyme. Thus maltase, lactase, and invertase, though all producing glucose, acted on different sugars, because they possessed different receptors, whereas pepsin and trypsin could act on similar proteins, probably because they possessed similar receptors. This latter view was supported by the fact that the first stage in the action of trypsin on pepsin would take place in either an acid or alkali medium. There also

appeared to be some evidence that trypsin combined with proteins of different kinds by means of receptors of a different type.

Mr. A. D. GARDNER read a paper on some work done by himself and Dr. MACLEAN on

The Sugar of Blood and Urine.

In these experiments blood was drawn by a hollow needle, and coagulation was prevented in most cases by potassium oxalate. The sugar was estimated at varying times from 2 to 30 minutes after withdrawal, then incubated at 70° C. for 3-4 hours, occasionally shaking. It was found that glycolysis took place in all normal human blood. With regard to diabetic blood it was found that in mild and moderate cases a degree of glycolysis took place even above that of normal blood, but that in severe cases there was no glycolysis at all. The sugar was estimated by Bang's method, using the Bertrand-Rowland Michaelis method as a control in all cases and MacLean's new modified method.—A short discussion followed.

Professor J. J. R. MACLEOD (Ohio) read a paper on

Recent Researches on Sugar Metabolism.

Experiments on the utilisation of sugar showed that before any conclusion could be arrived at glycogen utilisation in tissues must also be investigated. Evidence was accumulating that glycogen might disappear from the liver and yet not appear as sugar but as other substances. Two methods were useful in investigating this subject: 1. A histological, which consists in investigating the livers of diabetic and normal animals, the tissue being stained by Best's carmine method, which demonstrates the glycogen present in the cells. Under high power glycogen, or a glycogen-like substance (probably dextrin), is found in the blood-vessels. Lepine has found a lower percentage of free sugar in the blood of the inferior vena cava than in the blood of the carotid artery, and the reason may be that dextrin discharged from the liver into the blood is changed to dextrose. 2. The second method is a biochemical one, and consists in the examination of blood for glucose and other substances—e.g., lactic acid. Embden and Hopkins showed the probability that lactic acid could be derived from glycogen. The average amount of lactic acid in normal blood was 0·04 per cent. In hyperglycæmia obtained by splanchnic stimulation or asphyxia there was no evidence of increase of lactic acid in the hepatic veins, but clamping of the hepatic pedicle led to rise in percentage of lactic acid and also of the sugar in the blood. It was suggested, therefore, that some of the glycogen which disappeared was excreted as lactic acid and dextrin-like substances.

The results of various dietetic experiments were reported by Dr. CATHCART in his paper on

Influence of Carbohydrate on Metabolism.

The reporter had confirmed some recent experiments which showed that on a diet poor in protein but rich in carbohydrate the output of total nitrogen fell steadily. On a fat rich protein-free diet there was a rise in total nitrogen. Ringen showed that the result of increase of metabolism on a carbohydrate-poor diet was a demand of the organism for sugar. Recently Dr. Cathcart had shown that on a diet of pure olive oil for three days, to which small amounts of carbohydrate were added in increasing amounts, that carbohydrate did have an inhibitory effect upon protein metabolism. As the amount of sugar rose, so nitrogen excretion became nearer to normal. The conclusions Dr. Cathcart drew he expressed thus: "In the human organism the carbohydrate represents the currency, and fat the security, and not an easily convertible one."

A short discussion followed in which Professor MACLEOD and Dr. NOEL PATON took part.

Dr. J. B. ORR (Aberdeen) read a paper on

The Influence on Metabolism of Excessive Water Ingestion

by himself and Dr. DAVID BURNS (Glasgow). The conclusion the reporter drew from their experiments was that excessive water ingestion had no effect on the creatin or the creatinine excretion. The apparent fall in excretion of these substances found by Hawke, they considered due to experimental error caused by dilution of the urine.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

WEDNESDAY, JULY 29TH.

President, Mr. H. LAMBERT LACK (London).

The PRESIDENT, in opening the proceedings, said he regretted that the meeting clashed with that of the North American surgeons in London. The programme of work dealt largely with what had been hitherto regarded as more or less hopeless subjects. This pointed to a change in their ideas, e.g., with regard to treatment of inoperable neoplasms of the throat. With regard to otology, some people seemed hopeful of new lines of thought. As instances of progress during the year he mentioned suspension laryngoscopy, diathermy, and the intratracheal administration of ether by means of which bloody operations about the throat could be safely performed even without preliminary laryngotomy. Diathermy was not yet widely known, but was likely to become so, not in the treatmemt of malignant disease only, but of such conditions as nævi and lupus. He could not claim for this country the credit of the progress mentioned, but enough was being done here to make him proud to belong to such an active branch of medicine.

Discussion on the Treatment of Inoperable Growths of the Nose and Throat.

Mr. W. D. HARMER (London) opened the discussion with a paper on

Diathermy,

in which he said that diathermy had so far not received as much attention as it deserved. The discussion was on "inoperable" cancer, but the treatment could be applied in many other diseases. He referred members to Dr Nagelschmidt's book (1913). He described the apparatus and its cost. In practice the following conditions were necessary: (1) an assistant to attend to the power; (2) the operator to wear rubber gloves; (3) the needles to be applied to the tissue before turning on the current; (4) the current to be turned off before moving needle; and (5) aseptic precautions. General anæsthesia was required and preliminary injections of atropine were an advantage. A brush of 5 to 10 points was used. A series of punctures was made, each lasting from 5 to 10 seconds. The resulting coagulum was removed, and the cauterisation repeated if necessary. During operation they should be prepared for tracheotomy; the burning should be done slowly to prevent heating of the neck. There was an apparatus for measuring the neck temperature. Care was needed in removing sloughs. Three cases treated by Nagelschmidt in St. Bartholomew's Hospital were angioma of tongue, endothelioma of palate, and hypertrophied tonsils. His own cases for this paper were cancer of the tongue, palate, pharynx, and larynx. After diathermy there was no severe pain; swallowing was usually easy after 48 hours. There was rarely œdema, the temperature was seldom above 99° F., and there was little or no shock. Patients could often leave hospital within a week. There was usually cessation of salivation and discharge and no tendency to cicatricial contraction. Bad cases were those when the disease involved bone or structures of the neck. In only one case was there slight secondary hæmorrhage on removal of a slough. In two cases there were burns at the large electrode owing to defective contact. There was improvement in every case and the treatment could be repeated. One patient, his best case, had five treatments in two years. He showed drawings of a case of cancer involving the tonsils, tongue, and palate in which the glands were removed later without special difficulty. Radium had been employed in five cases as an adjuvant. Statistics of cases treated were produced. Life was not prolonged greatly. The patient's condition was much improved. In these cases diathermy was superior to the knife owing to the rapidity and ease of application, the absence of bleeding, and the concomitant obliteration of lymphatics. His impression was, further, that diathermy delayed growth and dissemination. It provided a better outlook for the last days of cancer cases and merited further consideration with regard to other diseases.

Dr. G. WILLIAM HILL (London) contributed a paper on

Radium Treatment.

He said that radium was a temporary palliative. After its use operative treatment sometimes became possible. Surgical diathermy was an operation in itself. He enumerated the

various means of treating inoperable cancer—e.g., Coley's fluid, violets, &c. Radium could be used in combination with diathermy and X rays. The action of X rays was comparatively limited, but he had seen good results in a case of lymphadenoma. He had used diathermy in two cases with encouraging results. Radium was better for sarcoma and endothelioma; diathermy for epithelioma. He had applied diathermy in a case of epithelioma of the larynx with the aid of suspension and intratracheal ether, and there was at present no sign of recurrence. Diathermy was more precise, more rapid, and more easy of application than radium. Radium was a valuable agent, but it was also a two-edged tool. Its use had been exaggerated, especially in carcinoma. Radium technique was in process of evolution. He discussed the methods of application. Radium was worth trying if (*a*) an adequate amount of radium was available, (*b*) the growth was accessible, and (*c*) the patient not *in extremis*. Dissemination was not necessarily a contra-indication. Obscure toxæmia sometimes occurred after radium. He had had a case with Dr. Hemington Pegler where thrombosis of the internal iliac vein took place. Accidents had occurred owing to loss of radium in the patient. He briefly described the technique of radium application, and showed upon the screen a number of radiograms of œsophageal stricture.

Dr. JOHN MACINTYRE (Glasgow), in reading a paper on

X Rays,

said that cancer cases might be divided into four classes: (1) successful operation; (2) operation with recurrence; (3) "inoperable" cases with recurrence after operation; and (4) cases untreatable by any means. The view of surgeons that patients should, where possible, get the benefit of early operation had lately been challenged. X rays and other agents had not had the same chance as the knife. It must be borne in mind (1) that agents like X rays acted differently in different subjects and tissues and stages of disease; (2) the distinction between epiblast and mesoblast; and (3) the variable incidence of disease in various parts of the body. In these cases every possible means of diagnosis should be employed. X rays had been successful in rodent ulcer, and the knife was not needed. He had had good results in two cases of sarcoma, as also in cases of epithelioma at an early stage when the patient refused operation. Good results had been obtained in gland infections (Lewis Jones). In sarcoma experiences varied very much. Numerous cases of disappearance of tumours were recorded. He asked how much reliance was to be placed on pathological diagnosis. He concluded (1) that early cases had undoubtedly been cured by X rays; (2) he would not claim cures in "inoperable" cases, but considerable palliation; and (3) the best results were obtained on surface structures with the exception of mucous membranes. He suggested the more frequent prophylactic use of radium and X rays. He described the complicated nature of X rays and the various possibilities in the mode of using them. There had, he said, been a great advance by the evolution of screening. Deep-seated growths had been effectively treated, and great improvements had been made in the apparatus. The work was only beginning. Surgery was old by comparison with radiology. Through the progress of science the truth about X rays would sooner or later be demonstrated.

The PRESIDENT gave his experiences with diathermy, and the discussion was continued by Dr. P. WATSON-WILLIAMS (Bristol), Mr. SOMERVILLE HASTINGS (London), Dr. L. HEMINGTON PEGLER (London), Dr. W. S. SYME (Glasgow), Dr. T. H. LIVINGSTONE (Newcastle), Mr. T. JEFFERSON FAULDER (London), and Mr. J. F. O'MALLEY (London).

Mr. HARMER, Dr. HILL, and Dr. MACINTYRE replied.

THURSDAY, JULY 30TH.

Discussion on Oto-sclerosis.

Dr. A. A. GRAY (Glasgow) read a paper on the

Etiology and Pathology of Oto-sclerosis.

He said the notion of Manasse that sclerosis was not a pathological entity was based upon his findings in two particular cases. In practice a definition of a disease became necessary. What he had to say referred to "progressive deafness with changes in the bony capsule of the labyrinth." He illustrated the pathology of the disease by a number of sections of the labyrinth showing changes in oto-sclerosis, and expressed the view that the signs were those of degeneration, not of inflammation. As regards etiology, it was not necessary to look for any single specific cause of the disease, which in this respect might be compared with arterio-sclerosis. It was probable that the whole auditory apparatus from pinna to internal meatus was, or might be, involved. As evidence of this he mentioned diminution in the cerumen, loss of cutaneous sensation in the meatus, and the condition of the Eustachian tube. In well-marked cases of oto-sclerosis there were no changes in the semicircular canals or the vestibular nerve apparatus. The processes of evolution had their influence. The cochlea was a recent inheritance by comparison with the semicircular apparatus, and was therefore more liable to degenerative processes.

Mr. J. S. FRASER (Edinburgh) read a paper on

Clinical Aspects of Oto-sclerosis.

He said that there were differences of opinion as to what was during life to be diagnosed as oto-sclerosis at an early stage. Adhesive processes and nerve deafness might be concurrent. He took the view that "osteitis vasculosa" might follow simple otitis media. He had collected 153 cases of (clinical) oto-sclerosis. The membrana tympani was normal in all except 26, where very slight changes were present. All were deaf, nearly all had tinnitus, some had vertigo, and eight had neuralgic pains. Questions to be investigated were age of onset, sex influence, family history, past or present illnesses. He would not say that the facies of oto-sclerotic patients was characteristic. The external meatus, tympanic membrane, and Eustachian tubes should be examined, and rhinoscopy and complete functional tests carried out. He described the functional tests. C_{32} and C_{16} were not heard by any patient. He used Struycken's monochord for testing the upper tone limit. He had made experiments in case of negative Rinne to determine at what point the reaction became positive. The caloric reaction time on the average was in normal cases 25 seconds; in late oto-sclerosis it was reduced to 19 seconds. He showed upon the screen a number of slides demonstrating osteitis vasculosa associated with cholesteatoma, and drew attention to the lymphatic spaces surrounding the labyrinth.

Mr. G. J. JENKINS (London) read a paper on

Various Methods of Treatment.

He said that when disease of the middle ear was supposed to be the cause of oto-sclerosis treatment was directed to the middle ear. As pathology advanced forms of treatment by massage, &c., were invented. He advanced the view at the Congress of 1913 that there were changes in the labyrinthine fluid as well as in the bone. He was of opinion that massage, exposure to sounds, &c., did harm in true oto-sclerosis. No good had resulted from attempts to make a new fenestra by surgical means. He had opened the external canal with slight but very temporary benefit. In regard to prophylaxis questions of heredity, marriage, and pregnancy came in. It was unwise to raise hopes in the patient from operation or nasal treatment. The slow progress of the disease was a means of encouraging the patients. The general question of the effect of noises was important. It was generally advisable for such patients to live in quiet surroundings, to avoid alcohol and quacks. It must also be remembered that one kind of deafness might be added to another. He described the use of artificial aids to hearing and showed a number of labyrinth sections on the epidiascope.

Mr. F. C. MUECKE (London) read a paper on

Auditory Re-education.

He said that he had treated 36 cases with a view to testing the capabilities of electrophonoid instruments. His cases included all forms of deafness: (1) obsolete chronic suppurative otitis media; (2) oto-sclerosis; (3) chronic catarrhal otitis media; (4) nerve deafness; and (5) cases with scarred drums and adhesions. His results showed that in oto-sclerosis there was slight temporary benefit as regards tinnitus only. Early cases of chronic catarrh could be improved, but relapsed. In later stages there was sometimes slight improvement, but relapse always followed. In nerve deafness there was no result at all. He concluded that the vibrations used in these methods acted mechanically, not physiologically.

The papers were discussed by Dr. J. M. BOOTH (Aberdeen), Dr. WATSON-WILLIAMS, Dr. HILL, Dr. SYME, Dr. J. W.

MACKENZIE (Inverness), Mr. JENKINS, and the PRESIDENT, who drew attention to the excellent pathological demonstrations given.

Dr. GRAY, Mr. FRASER, and Mr. MUECKE replied.

The following papers were also before the section:—Wounds of the Ear, Nose, and Throat in the Last Two Greek Wars, by Dr. D. DEMETRIADES (Athens); Ocular Disturbances in Cases of Sinus Disease, by Professor ONODI (Budapest); and Congenital Teratoma of the Septum Nasi, by Dr. LADISLAUS ONODI (Budapest). The authors of these papers having been summoned back to their respective countries, the papers were read by Dr. H. PETERKIN (Aberdeen), who had translated them into English.

Dr. J. W. KILLEN (Londonderry) related a remarkable case of a bullet wound of the nose with a superficial injury of one cornea.

FRIDAY, JULY 31ST.

Mr. FRASER gave a demonstration on the epidiascope of the Pathology of Labyrinthitis.

Dr. WATSON-WILLIAMS read a paper on

Intranasal Operations for Frontal Sinus Disease.

By means of drawings of the base of the skull he showed the historical development of intranasal operations on the frontal sinus, and the intranasal instruments of Spiers, Halle, Segura, Vacher, Sullivan, and others. He drew attention to the agger cells of Mosher, which he preferred to call anteconchal cells. He demonstrated his own instruments for penetration of the sinus, and showed a number of skiagrams with the instruments in position. The principal points were to work as far forward as possible, to keep outside the middle turbinal, and to retain as much mucous membrane of the fronto-nasal duct as possible.

The paper was discussed by Dr. HILL and Sir WILLIAM MILLIGAN (Manchester), and Dr. WATSON-WILLIAMS replied.

Dr. A. BROWN KELLY (Glasgow) read a paper on

The Difficulties and Dangers of Exploratory Puncture of the Antrum of Highmore.

He said that a considerable amount of attention had been paid to this subject in other countries, but it had not so far been discussed here. In exploratory puncture he used the inferior meatal route and straight trocar and injected fluid usually after preliminary insufflation. His study of the literature led him to express a warning against forcible inflation. He passed over the minor accidents which occurred and stated that nine fatal cases were on record. They were initiated by sudden faintness, loss of consciousness, paralyses, or convulsions. They were difficult to explain. Death had occurred in these cases 14 and 40 hours from the onset of symptoms. A case of Neunbahn was explained as cocaine poisoning. The literature contained numerous cases of paralysis which recovered. These were probably in their nature similar to the fatal cases. Killian had suggested reflex stimulation of the vagus as a cause in these cases. Air embolism was a possibility and had occurred in a case of his own, in which the air probably entered by the pterygoid plexus of veins. Sometimes there was cyanosis and dyspnœa. The question which arose was why a proceeding usually regarded as trivial should be sometimes followed by such serious consequences. Post-mortem examination had thrown very little light upon the matter. The explanations which had been given were poisoning, air embolism, angio-spasm from reflex irritation of the vagus, and absorption of toxins. In some cases there was analogy to the alarming symptoms occasionally produced in artificial pneumothorax.

The paper was discussed by the PRESIDENT, Dr. PEGLER, Mr. FAULDER, Mr. HASTINGS, Dr. HILL, Dr. BOOTH, Mr. FRASER, and Dr. O. ST. J. GOGARTY (Dublin).

Dr. BROWN KELLY replied.

Sir WILLIAM MILLIGAN demonstrated a new form of Extending Bronchoscope. The extension was obtained by a mechanism similar to the coarse adjustment of microscopes. He had added a funnel-shaped opening with a slot to facilitate the passage of instruments, and also a lateral tube for anæsthetics.

The PRESIDENT, Dr. HILL, and Dr. BROWN KELLY asked questions and Sir WILLIAM MILLIGAN replied.

Dr. HILL and Mr. G. J. F. ELPHICK (London) communicated a paper on the Minimising of Hæmorrhage in Extirpation of the Tonsils and on the Employment of the Hæmostatic Guillotine.

Dr. GOGARTY read a paper on

Latent Empyemata of the Nasal Accessory Sinuses,

in which he said that individuals reacted very differently to nasal disease. In one case polypi were borne with apathy; in another case attacks of coryza could almost be produced by suggestion, and yet even in sensitive cases grave conditions might be overlooked. He had operated on the sinuses in 300 cases. In most of them the patient complained of "catarrh," and the vast majority of them had localising symptoms. His paper was based on five cases where there were no localising symptoms, either subjective or objective. He described the cases in detail and thoroughly explained their difficulties. He drew attention to the extreme physiological importance of the nasal mucosa. Chronic catarrh was nearly always a symptom and not a cause, and was often maintained by latent sinus disease. His five cases showed that no examination of the nose was complete unless the sinuses were examined. In cases of persistent neuralgia skiagrams of the roots of the teeth should always be made. He gave a graphic description of the evils which resulted from interference with the lower turbinal and protested against its wholesale removal as still practised and even illustrated in the latest surgical books on rhinology.

The paper was discussed by Dr. WATSON-WILLIAMS, Dr. KILLEN, Mr. FRASER, and Dr. PETERKIN, and Dr. GOGARTY replied.

At the close of a very successful meeting Dr. BOOTH in a happy speech proposed a vote of thanks to the President, which was carried by acclamation.

DISEASES OF CHILDREN (INCLUDING ORTHOPÆDICS).

WEDNESDAY, JULY 29TH.

President, Dr. J. THOMSON (Edinburgh).

Mr. T. H. OPENSHAW (London) opened a discussion on

Congenital Dislocation of the Hip.

He emphasised the great advances made in the treatment of this condition in recent years; malposition in utero, intrauterine trauma, and heredity led to this and other congenital deformities. The chief symptoms, said Mr. Openshaw, are lateness in walking and a peculiarity of gait, with prominence of the trochanters and progressive shortening, from three-eighths of an inch in infants to six inches in adults. Adduction is very free and the abnormally placed head can best be felt with the limb adducted and flexed. The acetabulum is triangular in shape and filled by the displaced ligaments; the capsule hour-glass shaped with a narrow constriction and a roomy outer half allowing free movement of the head. The cotyloid ligament is always present though often frayed. After the age of 5 flattening of the epiphysis and abrasion of the cartilage appear and osteo-arthritic changes become serious in later life. An increasing forward rotation of the head is of great importance. All the structures round the joint undergo adaptive changes. Treatment should be commenced at the earliest possible moment; the older the patient the greater is the shortening, the worse the rotation, the more prolonged the treatment and the worse the prognosis. In cases under the age of 5 reduction by simple manipulation is possible; above this age Mr. Openshaw combines with the Lorenz method preliminary tenotomy of the muscles and weight extension till the trochanter is well down; he considers that the head slowly stretches the constriction of the capsule, and only comes to rest in the acetabulum after a considerable time in plaster; the hip is maintained in the first abducted position for six months; the total duration of after-treatment is at least 18 months. When the head is much rotated plaster is carried down to the ankle with the leg rotated inwards; if anterior displacement occurs the leg is put in plaster in flexion for three months; residual stiffness gradually passes off. Redislocation depends on the age at treatment and the rotation of the neck. All cases under the age of 4 can be replaced with certainty, but over this age the prognosis gets worse; cases as old as 16 and 18 have been reduced by manipulation at several sittings with excellent anatomical results. Mr. Openshaw uses open operation in cases of relapse and in osteo-arthritic cases; he avoids interference with the cartilage of the femur and the results are very favourable.

Mr. E. LAMING EVANS (London) laid great stress on the value of radiographic plates in diagnosis, prognosis, and after-treatment. They show, he said, the anatomical changes which form the basis of cure. In the deformed acetabulum the roof is short, has an increased obliquity, and no sharp margin—all conditions favouring relapse. After reposition ossification from the acetabular margins gradually broadens the roof, lessens the slope, and elevates the rudimentary margins. Full restoration takes about three years, and the radiographic records are a guide to the necessary period of after-treatment and to the period at which an anatomical cure can with safety be assumed.

Mr. JOHN FRASER (Edinburgh) laid stress on the bad outlook in untreated cases in many of which the patients became bedridden and died early. He advocated immediate treatment of all cases and had rarely found tenotomy necessary; full abduction in plaster for three months and plaster for nine months in all was the usual practice. When open operation was necessary the anterior incision was used; the hip was put up in abduction and inward rotation and the foot brought into position later by subtrochanteric osteotomy.

Dr. ALEXANDER MACLENNAN (Glasgow) advised retention of the hip in abduction for at least six months. A hereditary history has certainly existed in several of his cases, and in a large number of cases of definite oligohydramnios that he had investigated there was no instance of any congenital deformity.

Mr. A. FULLERTON (Belfast) considered that many cases were traumatic. He had reduced the right hip in a child at 2 years of age, the left being normal at that time both to clinical and X ray examination, but six years later the left hip required reduction.

Mr. G. C. E. SIMPSON (Liverpool) had observed that in many cases of unilateral dislocation the head and neck of the sound side exhibited changes similar to those on the affected side. His experience of the methods of retention in the abducted position with inversion, though small, led him to advocate this position. He preferred a short period of retention in plaster, with functional use, followed by the use of a Thomas calliper splint to protect the articulation for the first few months.

Mr. PAUL B. ROTH (London) advocated the postponement of treatment until the child could walk, and Dr. W. E. HENDERSON (Kendal) had found the high incidence of 15 cases in 11,383 children in the county of Westmorland.

Mr. A. S. B. BANKART (London) utilised reduction over the inferior border of the acetabulum with the thigh fully flexed without any preliminary manipulation. After reduction the leg is put up first in right angle abduction and external rotation, and secondly in diminished abduction with 45° internal rotation; in both positions the knee is included in plaster, the child is not allowed to walk or crawl, and both hips are included in every case. In the third and fourth plaster the abduction is further diminished, the knee is left out, and the child allowed to walk. The principal points were the elimination of all preliminary violence, pulling, stretching, &c., before reduction. No stretching of the hamstrings; no walking or crawling in the first two plasters; internal rotation in the second plaster and fixation of both hips. Internal rotation gave far better results than the Lorenz method of maintained external rotation, which favoured anterior transposition. True reposition should be the aim of treatment.

Mr. OPENSHAW, in his reply, referred to the frequency of the condition in certain districts and races. He did not consider that the Lorenz method required great violence, especially after preliminary tenotomy. Internal rotation and fixation of both hips were of advantage in some cases.

Mr. ROTH read a paper on

The Practical Treatment of Lateral Curvature of the Spine.

Proper treatment depends, he said, on the recognition of the following principles. Scoliosis is due to a general weakness of muscles, ligaments, and bones, it is postural at first and only becomes structural after a long period. Postural scoliosis is completely curable, structural scoliosis can be arrested but never cured. The prognosis can be decided at the first examination by finding the best attainable position of the patient. Treatment depends on training the patients' muscular strength and postural sense, and on attention to the skeletal deficiency. Mr. Roth did not believe that any amelioration of structural deformity could be obtained. Exercises and muscular training were the basis of treatment in all cases as plaster only increased the weakness. As a record of the deformity he took a tracing of the outline of the dorsal prominence with a malleable tin tape.

Mr. A. MACLENNAN laid stress on the difficulty of getting these patients to persevere with treatment. The use of Abbot's method gave over-correction rapidly and so was an advantage, and in his opinion actually corrected structural deformity.

Mr. JOHN FRASER had also seen good structural correction by Abbot's frame.

Mr. F. H. ALFREY (Southwick) also spoke, and Mr. ROTH replied.

In a note on

The Treatment of Torticollis

Mr. ROTH pleaded for simpler treatment. He practised subcutaneous tenotomy of the sternal origin of the sternomastoid. It was rarely necessary to divide the clavicular head and never necessary to divide deep fascia. After tenotomy the head could be manipulated till full over-correction was obtained, and full rotation and lateral flexion once daily for the first few days were sufficient without any retentive apparatus. Subcutaneous tenotomy was, in his opinion, free from danger and avoided an unsightly scar which often underwent keloid change. Exercises for prolonged periods were useful when scoliosis was also present.

Mr. OPENSHAW invariably used the open operation. Subcutaneous tenotomy fell into disuse owing to several cases of severe hæmorrhage, probably from the variable communicating vein between the anterior and external jugular. He had never had trouble with the scar or with hæmorrhage. He advocated open tenotomy and the use of a collar afterwards.

Mr. H. W. M. GRAY (Aberdeen) agreed that subcutaneous tenotomy without retentive apparatus was sufficient in the absence of associated deformities, but Mr. LAMING EVANS strongly advocated open operation and free division of all bands with subsequent exercises in advanced cases.

Mr. ROTH replied.

THURSDAY, JULY 30TH.

Dr. A. E. GARROD (London), in opening a discussion on

The Thymus Gland in its Clinical Aspect,

alluded to the obscurity of our present knowledge of the functions of the gland. The thymus, he said, is a gland of internal secretion, and its extirpation in animals leads to definite symptoms—adiposity followed by cachexia and death in coma, bone changes similar to those of rickets, and hypertrophy of the associated glands. Rickety alterations in bones have been observed after its extirpation in children. Little information has been gained from hyperthymism, thymus feeding, or thymus tumours. The thymus may play a part in rickets and in a form of cretinism accompanied by adiposity, and its correlation with other glands, especially the genital glands, is important. Clinically disease of the gland leads to thymic death, a form of sudden death in infants; to thymic asthma, characterised by chronic or spasmodic dyspnœa; and to the status lymphaticus. Diagnosis in the first of these conditions depends on the suddenness of the attack and the convulsive symptoms, but only in a few cases can it positively be stated that the thymus is abnormally large, as its normal size is so variable. Thymic death and thymic asthma may be due to mechanical effects of the enlarged gland, but status lymphaticus is a general constitutional condition predisposing to sudden death and characterised by a number of manifestations—pale pasty skin, increase of lymphatic tissues, enlarged spleen, and enlarged thymus. The more typical cases occur in adults and older children, but the liability to sudden death from slight causes renders its recognition important, even in young children. Many of the pathological manifestations are not available clinically, and enlargement of lymphatic tissue at the root of the tongue and of the thymus are the most valuable of those that are. In older children other signs become available, mainly abnormalities of sexual characters. Enlargement of the thymus is identified usually by increased retrosternal dulness and by enlarged thymic shadow in radiographs. Careful descriptions of every case and of the march of symptoms in the fatal seizures would be of value in elucidating the problem. Thymic conditions appear to be only a part of a general disease of ductless glands, and the

disease is modified by the groups of glands involved. Some degree of thymic change is present in Addison's disease and exophthalmic goitre. Treatment so far has been surgical and radiological and directed rather to relief of pressure; though radiological treatment may have some influence on the general condition, the right internal medicament for this disease will probably be found in some extract from the ductless glands.

Dr. MACLENNAN read a paper on

The Technique of Thymectomy.

He said that his results in eight cases had been encouraging, though the thymus often played rather a physiological than a mechanical rôle. Two types of operation were referred to, the first a simple and safe one, suitable in cases where the gland was normal or only slightly enlarged, being of an intracapsular enucleation; the second, where enlargement or adherence of the organ rendered a larger exposure necessary for its complete extirpation, involving a resection of the manubrium. The surgeon must be prepared to proceed to this if found necessary after exposure of the gland, as incomplete extirpation is a bad operation.

Mr. D. P. DALBRECK WILKIE (Edinburgh), in a paper on

Appendicitis in the Status Lymphaticus

maintained that the vulnerability of thymic subjects to acute infections was of grave importance if attacked by acute abdominal conditions, and quoted cases in illustration of the dangers. In two cases of appendicitis in which operation was performed within eight hours of the onset of the attack, and in which the appendix was not gangrenous or perforated, death had supervened in 24 and 42 hours respectively (in spite of primary peritoneal drainage and other treatment) from profound toxæmia. Post mortem in both cases marked signs of status lymphaticus were found, and this probably caused the low resistance. In a third case appendicectomy in the subacute stage was followed by collapse as the sutures were being inserted, and the patient could not be revived. Chloroform had only been used to help induction and open ether was the main anæsthetic. Again, status lymphaticus was shown by the post-mortem examination. The possibility of this condition was a further argument for the disuse of chloroform in operations on children.

Dr. C. MCNEIL (Edinburgh) considered

The Association of Abnormal Types of Pneumonia and of Tuberculosis in Children with Thymo-lymphatic Hyperplasia.

Status lymphaticus was a disease involving all the ductless glands and commonly present in cases of sudden death in infants, being frequently associated with capillary bronchitis or pneumonia. Many of these deaths were due to fulminant pneumonia or other fulminant infections to which these subjects were particularly liable. In a recent epidemic of sudden deaths with coma in an industrial school near Edinburgh fulminant bronchitis and status lymphaticus had been present in each case. In the same institution scrofula was very prevalent, and he considered that this condition was due to tuberculosis in subjects with status lymphaticus. Scrofula he described as a constitutional disorder of children, characterised by catarrh, enlarged glands with tuberculous infection, skin rashes, and tuberculosis of bone-joints; in addition, there were peculiar bodily characters, and the subjects gave intense tuberculin reactions.

Professor NOEL PATON (Glasgow), in the discussion which followed, sketched the modern views of the physiology of the thymus gland. The development of the thymus suggested that its function was to supply a secretion to the blood. In fishes and some other animals the gland persisted throughout life in contrast to its early atrophy in mammals. The results of extirpation of the gland were not well marked in guinea-pigs and rabbits, which were animals highly developed at birth, but could be studied in other animals. The extirpation of the thymus or of the testicles led to increased growth of the remaining gland; this might mean that the secretions of the one modified the activity of the other, or it might be compensatory and imply that the two organs were associated in producing a common internal secretion which influenced growth. Thymus feeding in tadpoles delayed their evolution; thyroid feeding promoted it, and the relation of these two glands required further investigation. Professor Paton also alluded to the influence of the thymus on bones, blood vessels, and nerves, and concluded that though not essential to life the thymus played an important part in growth and nutrition prior to puberty.

Dr. H. THURSFIELD (London) considered that diagnosis depended on no cardinal sign, but rather on a summation of minor characters, none of them constant. It was important to look for thymus enlargement in children who got frequent attacks of collapse without any cause. He alluded to the rare but well-marked class of cases of spasmodic dyspnœa with enlarged thymus which were most amenable to thymectomy, and noted the great operative mortality chiefly due to septic infections of wound or lung, and the unsatisfactory results of operative treatment in these cases.

Dr. D. B. LEES (London) considered that the association of the gland with cardiac muscle fibres required investigation; these fibres should be examined histologically in all cases of sudden death.

Dr. F. LANGMEAD (London) emphasised the difficulty of arriving at an estimate of the size and weight of the thymus gland in normal children. He thought that changes due to acute infections would account for the post-mortem appearances in many cases classed as status lymphaticus.

Dr. LEONARD FINDLAY (Glasgow) doubted if the thymus played any part in rickets, and Dr. D. W. GEDDIE (Aberdeen) alluded to the difficulties of anæsthetists in the absence of any reliable sign of the status lymphaticus.

Dr. MACLENNAN, Dr. WILKIE, and Dr. MCNEIL having briefly replied, Dr. GARROD, in concluding the discussion, agreed that there was room for a considerable amount of doubt of the rôle of the thymus in many of the described cases. The thymus was a gland which favoured the individual rather than the race.

Some Manifestations of Congenital Syphilis and their Treatment.

Dr. L. FINDLAY and Dr. MADGE ROBERTSON (Glasgow), in a paper on the above subject, said: Within recent years there has been a change in our ideas regarding the prevalence of syphilis and its manifestations largely due to the use of the Wassermann test. Although this test is not specific, it is of very great value in the diagnosis of active and latent syphilis if the method is sufficiently controlled. Working with the reliable Glasgow technique, the authors have satisfied themselves that a variety of chronic eczema of the angles of the mouth and mucous membrane of the lip is often of syphilitic origin, and that 80 per cent. of cases of congenital heart disease, 39 per cent. of spastic diplegics, and 59 per cent. of mental defectives in their clinic are congenital syphilitics. In view of the prevalence of these manifestations improvement in treatment is very necessary. Salvarsan is admittedly superior to mercury and should be more generally utilised. It is best given to infants and young children intravenously, as when administered intramuscularly pain and necrosis are serious drawbacks. The difficulty of intravenous injection is overcome by utilising the scalp veins, concentrated solutions of the drug, 0·05 to 0·2 grm. in 3 to 5 c.c. of saline being injected; repeated injections give good results. Antenatal treatment with salvarsan probably gives the best results, and great help in treatment of the disease would be obtained by compulsory notification. Four cases of idiocy with a positive Wassermann test, only one presenting syphilitic stigmata, have been treated by salvarsan and mercury with great benefit, especially in two cases in which the children were made quite educable.

FRIDAY, JULY 31ST.

On this day the section met in conjunction with the Sections of Medicine and Electro-therapeutics and Radiology. An account of the proceedings will be found on p. 381.

NAVAL AND MILITARY MEDICINE AND SURGERY.

WEDNESDAY, JULY 29TH.

President, Surgeon-General W. MAXWELL CRAIG, C.B., R.N.

In the enforced absence, owing to illness, of the President of the section the chair was taken by Surgeon-General P. H. BENSON, I.M.S. (retired). The proceedings opened with a vote of condolence to the President, proposed by Surgeon-General BENSON and seconded by Colonel C. H. MELVILLE, R.A.M.C.

Fleet-Surgeon D. WALKER HEWITT, R.N., read a paper on

The Treatment of Wounded in Naval Warfare.

He first drew attention to the peculiar conditions of war at sea in as far as they affected the nature of wounds

received and the possibilities and limitations of treatment. He emphasised the importance of the organisation of first-aid parties who should be especially instructed in the hand transport of wounded. He did not think they should attempt to apply first aid or dressings. The dangers from primary hæmorrhage were not great, and he considered that unskilled dressing might often do more harm than good and waste valuable time. On the numerous small craft where it was impossible to carry a surgeon, he suggested that three or four men should be well trained in first aid, not only theoretically but practically, by serving for short periods in naval hospitals. As soon as an action was over the sooner the wounded could be transferred to a hospital ship the better. The transference of wounded from ship to ship should be practised in peace time.

Colonel MELVILLE asked how it was that little importance was attached to the risks of primary hæmorrhage in naval warfare. He suggested that as naval actions so frequently took place near to land the wounded should be put on shore at the close.

Sir JAMES PORTER, K.C.B., R.N. (retired), commenting on the paper, emphasised the importance of practising the removal of large numbers of wounded men at inspections and other occasions.

Fleet-Surgeon HEWITT, in reply, said that the contused nature of the wounds produced by large projectiles and splinters accounted for the rarity of primary hæmorrhage. Scalds and burns accounted for a good proportion of the casualties in naval warfare nowadays. He acknowledged that it might sometimes be possible to land the wounded after an engagement, but that for strategical reasons it was not a method which could always be used.

Captain C. MAX PAGE, R.A.M.C. (S.R.), read a paper on

Gangrene in War.

drawn mainly from his experience in the late Balkan war. He classified gangrene as met with in war under five headings—viz., (1) due to injury to the main vessels; (2) local traumatic; (3) infective; (4) vaso-motor; and (5) secondary to the effect of high explosives. He noted the occurrence of aneurysm or aneurysmal varix after gunshot injuries of the large vessels, and quoted Makins's experience that gangrene in these cases only occurred secondarily to operation. He stated that cases of emphysematous gangrene could sometimes be treated successfully by local incision and the application of hydrogen peroxide. The fourth type of gangrene he considered to be strictly comparable to frost-bite. It had affected the Turkish troops at one period of the war in large numbers. The men attacked had in half the cases suffered from some form of enteritis, and all gave a history of exposure to cold, wet, and famine. He advised a conservative line of treatment for these cases, unless tetanus or emphysematous infection was present, when amputation was necessary. He had not been able to find any record of gangrene of this type on the allies' side. It was interesting to note that a similar condition attacked the British troops serving in the Crimean war; 1844 men were invalided on that account, and the death-rate in the ex-Bulgarian force was 33·3 per cent.

Questions were asked by Surgeon R. A. RANKINE, R.N., Colonel MELVILLE, Surgeon-General BENSON, and Major W. RIACH, R.A.M.C., to which Captain PAGE replied.

Lieutenant-Colonel E. M. WILSON, R.A.M.C. (retired), gave an address on

The Employment of ex-Soldiers and Sailors in Civil Life, with Special Reference to those who have been trained in Medical Duties.

He said that the men after leaving the colours for some years belonged to the reserve of either the sea or land forces. Their technical skill did not survive for long unless they were given an opportunity of practising it, and he knew of many instances where men well qualified as dispensers, nurses, or laboratory attendants had drifted into the ordinary labour market. He thought it most important that the more intelligent type of man who gained special qualifications should be secure of an opportunity of practising them when he returned to civil life. This security would improve recruiting and would make better citizens of the men after their training. He pointed out that medical men could assist the movement by employing ex-service men. They could be obtained from the Army and Navy Male Nurses' Coöperation, 11A, Welbeck-street, London, or through the Royal Army Medical Corps Records Office, Aldershot.

Sir JAMES PORTER agreed with Colonel Wilson, and said that he thought there was a great field for specially trained medical service men in the future, and that what was required was extension and advertisement of their organisation.

Surgeon RANKINE suggested that it would be a good thing if the Asylums Board would employ ex-R.A.M.C. and naval orderlies as a regular thing.

Major RIACH said he thought that there was a disadvantage in the opportunities of immediate lucrative employment available to ex-R.A.M.C. orderlies. He had come across instances where men who would have made excellent non-commissioned officers would not sign on after the expiry of their three years because they had well-paid jobs open to them in civil life.

Colonel WILSON replied.

THURSDAY, JULY 30TH.

A joint session was held in conjunction with the Section for Dermatology and Syphilology, Dr. ALFRED EDDOWES (London) being in the chair. Introductory papers were read by Mr. J. E. R. MCDONAGH (London) and Lieutenant-Colonel T. W. GIBBARD, R.A.M.C. The following members took part in the discussion: Dr. J. GOODWIN TOMKINSON (Glasgow), Dr. J. A. NIXON (Bristol), Dr. H. MACCORMAC (London), Dr. J. C. MCWALTER (Dublin), Colonel MELVILLE, and Professor E. PONTOPPIDAN (Copenhagen).

Subsequently Surgeon-General BENSON went into the chair, and Captain CECIL JOHNSON, R.A.M.C. (T.F.), read a paper on

Common Ailments in Camp.

He said that this paper was put forward to bring to notice how the minor ailments, which were so liable to cause loss of training among Territorial troops, might be avoided. He pointed out that in Territorial camps the admissions to hospital were most frequent among the young and least experienced men; it was therefore important that special attention should be paid to the health of recruits. He considered that the medical examination should be stricter than it is at present, and that no recruit should be accepted unless absolutely sound. He emphasised the importance of insisting upon the teeth being in good condition. He considered that a man should be rejected sometimes on grounds of inferior general physique or moral laxity. When in camp the author suggested the necessity of enforcing personal cleanliness and cleanliness in the camp in general. He referred to the value of periodical shifting of tents and the airing of bedding. The two commonest causes which rendered men unfit for duty were sore feet and gastro-intestinal disturbance. With regard to the former it could be prevented by attention to cleanliness and the provision of proper socks. In relation to the second a careful attention to the action of the bowels during the second and third day of camp was most important.

Colonel MELVILLE agreed entirely with Captain Johnson's remarks in relation to the examination of recruits. He thought that use of soft feet cloths instead of socks was a satisfactory method.

Dr. A. BAXTER (Alderley Edge) suggested painting the feet with a 5 per cent. solution of picric acid.

Lieutenant-Colonel FRANCIS KELLY, R.A.M.C. (T.F.), said he thought the men were perhaps hardier in Scotland, and so suffered less from minor ailments. He wished to emphasise the importance of having every recruit examined by an R.A.M.C. officer; also that examination should be carried out before the men went into camp.

FRIDAY, JULY 31ST.

Staff-Surgeon G. MURRAY LEVICK, R.N., having been recalled to duty, was unable to deliver his lecture.

DERMATOLOGY AND SYPHILOLOGY.

WEDNESDAY, JULY 29TH.

President, Dr. A. EDDOWES (London).

The PRESIDENT in his opening address said that he did not desire to give any set speech. In the first place he wished to thank them for the honour they had done him, a compliment he greatly appreciated. He had to announce that owing to illness one of the honorary secretaries, Dr. J. Farquhar Christie, was unable to attend. He was sure they all regretted this very much. Dr. R. Cranston Low (Edinburgh) had kindly taken his place. The subjects for discussion were not only of interest but also of considerabe

importance. He particularly wished to direct their attention to the discussion on syphilis held in combination with the Naval and Military Section. In the museum there were exhibits of models from skin diseases made by Dr. Cranston Low, a series of coloured photographs by Dr. Haldin Davis, and microscopical preparations of the leucocytozoon syphilidis by Mr. J. E. R. Macdonagh.

Dr. NORMAN WALKER (Edinburgh) then read a paper on

The Need for More Method in the Conflict with Lupus and Ringworm.

Dealing first with lupus, he said that his experience of these cases now extended over 22 years, comprising 1054 cases. In this series he had been most careful to prevent duplication. He did not believe that out of this number 100 had been cured. Many factors brought about this unsatisfactory state of affairs, but among others the very irregular attendance of the patients was in a large measure responsible. They might only come to hospital two or three times in all. The disease caused little discomfort, and in consequence they put off seeking, or altogether neglected to obtain, medical advice. Although the disease usually began fairly early in life, it might be met with in elderly people where the origin was comparatively recent. An analysis of cases from hospital and private practice revealed interesting figures. Thus, out of 30,000 skin cases in hospital practice, 1 in every 30 was lupus; in private practice, 1 in every 70. With lupus erythematosus the figures were different: in hospital, 1 per cent.; in private, 2 per cent. In private practice superior results were obtained, as these patients were more regular in their attendance and were subject to better hygienic conditions. Many cases of lupus were secondary to tuberculous glands, and he frequently observed small nodules arising in the scar left after operation for this condition. Disease of the nasal or oral mucous membrane was also a not infrequent source of skin lupus, and this primary condition was often overlooked. Adverting to various methods of treatment, he observed that his experience had now given him ample material for testing different remedies. He advocated scraping, and he now employed this procedure more frequently than formerly. Although in itself not sufficient to cure, it took one a long way. An excellent application subsequent to scraping was the powdered nitrate of uranium which was both caustic and radio-active. Unfortunately it was painful. He found Unna's creosote-salicylic plaster most useful, but it must be given a thorough trial, applying the plaster until the disease had healed under it. Brook's ointment was also useful and the employment of caustics, such as acid nitrate of mercury or carbolic acid often effected considerable improvement. In the majority of cases X rays were helpful, but he would warn those who employed this remedy that the risk of X ray carcinoma was not to be forgotten. Careful watching of the patients diminished this chance. Twenty-two cases of carcinoma on lupus had come under his observation, but of these five had not received any X ray treatment. Both the Finsen and Kromayer lamps were useful and worthy of trial in certain cases. Tuberculin was employed either as an ointment, 5 per cent., or by injection. The former often gave good results, and was especially indicated in cases of lupus about the large joints where the fibrosis of the cutaneous tissues had produced limitation of movement. The ointment caused an absorption of this fibrosis and a consequent freer movement of the joint. His experience with injections went back to 1901 in Pick's clinic; in those days the doses were criminal, and the consequent ill-effects caused this method of treatment to be abandoned. He now employed it successfully by the intensive method, giving gradually increasing injections twice a week of T.R. and then changing to P.T.O. Perseverence on the part of both medical man and patient was the essential factor for success in the treatment of lupus vulgaris, whatever methods were employed. In the future, however, lupus would, he thought, become more and more rare as a consequence of notification. In the case of ringworm and favus he had also an experience of 22 years to draw upon. Ringworm cases remained about the same in number until 1902, when a great increase was noted, the result of school inspection. Success was obtained in cases where regular attendance at hospital could be obtained, and the methods of following up cases by the authorities would in future ensure that attendance was regular. In conclusion, he pointed out that if lupus be notified it should not be included under tubercular diseases dangerous by contact to others; he did not hold that lupus came under this heading.

The PRESIDENT considered that surgical treatment was best for early cases of lupus; he had had considerable success also with radium and other light treatment. By chance he had discovered the useful properties of the yellow oxide of mercury both applied locally and injected into infiltrated masses. Where it was employed the fibrosis became much less marked, and in the case of lupus about joints movement became more free.

Dr. J. G. TOMKINSON (Glasgow) had observed 270 cases in the last nine or ten years. He advocated X rays in small doses; he also spoke highly of Unna's salicylic and creosote plaster. He was not in favour of scraping, especially near orifices. Sanatorium treatment was not to be overlooked, and the State ought to eradicate all forms of tuberculosis. Sunlight, especially in Egypt, gave excellent results. In the case of ringworm they had the example of France. He now treated most of his cases at the special station erected by the Glasgow school board.

Dr. HALDIN DAVIS (London) emphasised the importance of early diagnosis; he believed in surgical removal where possible, but did not approve of scraping. In the treatment of ringworm of the scalp he used Corbett's radiometer for judging the tint of the Sabouraud pastille. He also claimed that Leslie Miller's mica disc for excluding reverse current lengthened the life of X ray tubes.

Dr. A. W. WILLIAMS (Brighton) advocated the use of potassium permanganate. Alcohol should be avoided, as it caused a fall of the opsonic index for B. tuberculosis.

Dr. R. A. BOLAM (Newcastle-on-Tyne) said that the failures with lupus and ringworm were often the result of unmethodical treatment. In his district lupus was almost entirely a disease of the poor. He believed in scraping; it was most necessary to investigate the nose and throat in cases where these regions might be the original site of the disease.

Dr. MILNE advocated scraping and also potassium permanganate. He still employed croton oil in the treatment of ringworm.

Dr. GREEN (Birmingham) found that in ringworm bald patches were liable to occur in 1 case out of every 350. Lupus crusts were often found to contain streptococci and staphylococci, and vaccines helped in such cases.

Dr. G. NORMAN MEACHEN (London) called attention to the value of in-patient treatment for lupus. Scraping was of value, but it must be followed by chemical applications, such as the acid nitrate of mercury. Tuberculin ointment might cause a general reaction, as in one of his cases. He did not advocate X rays for ringworm in children under 5 years of age.

Dr. J. D. P. MCLATCHIE (London) believed tuberculin ointment useful both for diagnosis and treatment.

Dr. HENRY MACCORMAC (London) thought X rays were not of much use in the dry forms of lupus. He advocated surgery when the disease was early and localised. Hot air at 700° C., as employed by Ravaut, of Paris, was of great value in extensive cases, and gave a wonderfully good cosmetic result.

Dr. NORMAN WALKER then replied. At the conclusion of the meeting he showed four cases of lupus treated by various means, in all of which a marked improvement had taken place.

JOINT DISCUSSION OF NAVAL AND MILITARY SECTION WITH SECTION OF DERMATOLOGY AND SYPHILOLOGY.

THURSDAY, JULY 30TH.

Discussion on Syphilis.

Mr. J. E. R. MACDONAGH (London), in opening the discussion, said that until the cause was known and a sufficient number of years had elapsed it was impossible to say what the results of the present methods of treatment would be. The spirochæta pallida was not the cause of syphilis, but the only one phase in development of the organism. There was a tendency with all protozoal diseases for spontaneous cure, and treatment did something to prevent the life cycle from developing, but the tissue reactions did more. Salvarsan cured in early cases, but was useless in later ones. He had seen chancres where the organism had not been found, and he now relied more on clinical diagnosis. With regard to the Wassermann reaction, he did not think a negative result

was an indication of cure. It might even occur in active syphilis, while a positive reaction might only indicate the increased protective capacity. Speaking of salvarsan, he considered that the present substance was much less potent than the earlier examples. In primary cases he gave five injections of salvarsan of 0·3, 0·3, 0·3, 0·4, and 0·5, followed up by mercury for one year. He treated many cases as outpatients with no ill results. In secondary cases he increased the number of salvarsan injections to nine and then prescribed mercurial treatment for two years. Recurrent syphilis should be treated as for secondary cases, while in the tertiary stage he gave enough treatment to cure symptoms. Mercury alone was indicated in congenital cases. The problem of syphilis of the nervous system was a difficult one. Where there was disease of the arterial system he followed the method used in secondary cases; tabes might be made worse and in the case of general paralysis little could be expected. Speaking generally, he regarded early cases of syphilis as curable, while in the later stages a cure had yet to be discovered. Cases of re-infection were not now so often reported as formerly. He thought they were due to a few spores which had remained in the body and subsequently developed when the anti-substance had ceased to be elaborated.

Lieutenant-Colonel T. W. GIBBARD, R.A.M.C., and Major L. W. HARRISON, R.A.M.C. (London), in an interesting and careful paper, said the question now was not whether salvarsan was a specific remedy for syphilis, but rather how much and in what way it should be given to obtain the best result. Although opponents still existed they were a fast diminishing band. When mercury and potassium iodide were the only remedies the wards at the military hospital were full of syphilis. Now out of 285 cases, only 9 relapses had occurred. The remedy was not a dangerous one, for only one fatality had occurred in all the cases treated in the British army, nor had they met with eye trouble or lesions of cranial nerves which were not amenable to further salvarsan treatment. On two points there was not complete agreement, whether salvarsan should be used alone and in what amounts it should be given. Whatever method was followed the immediate results were good, but to really arrive at an idea of its permanent value it was necessary to keep cases under observation for a long time. Most authorities were now in agreement that salvarsan should be followed up by mercury. If it were used alone it must be given over a long period intravenously first, and then intramuscularly. This was very costly, and therefore on grounds of economy, if for no other reason, the combined salvarsan and mercury treatment was preferable. The great disadvantage of the Wassermann test was that it did not say whether the spirochæta was dead or only asleep, and the blood serum gave no hint as to the condition of the cerebro-spinal fluid. They had gradually increased the length of the initial course of salvarsan and the amount of mercury. The best results had been obtained by a course consisting of one injection of salvarsan, five of mercury; one of salvarsan, five of mercury; and finally one of salvarsan; in all three salvarsan and ten mercurial injections. Where relapses occurred even more vigorous treatment was indicated than for secondary cases. They now distinguished between early primary cases with a negative reaction and early primary with a positive reaction which they included with early secondary cases.

In the discussion which followed, Dr. J. G. TOMKINSON (Glasgow) said Mr. Macdonagh's paper was somewhat revolutionary, but that did not diminish its value. He personally believed in the combined method of treatment, and he thought it should be prolonged. They could only arrive at an idea of the efficacy of any method through observation extended over many years.

Dr. J. A. NIXON (Bristol) thought it was unwise to try and elaborate any routine method of treatment. The interval between injections of salvarsan depended rather upon the manner in which the patient reacted, and it was important to observe the effect of each dose. He was in favour of the combined treatment, but it was difficult to get patients to undergo a full course of mercury when all their symptoms had been cleared up by the salvarsan. The question of economy should not have any effect in deciding which method should be followed.

Dr. HENRY MACCORMAC (London) said he thought everyone who had to treat syphilis realised how much more difficult it was to influence the Wassermann reaction in old-standing cases. But the same difficulty was found in chronic diseases of bacterial origin. For example, how difficult it was to cure B. coli infections or those due to a staphylococcus when they had obtained a hold. He personally, as the result of five years' experience, placed considerable reliance on the Wassermann method; he now employed Desmoulière's antigen, one containing cholesterin. If anything, it was perhaps too sensitive. His usual method of treating syphilis was to give three injections of salvarsan and then two years of mercurial treatment. This was anyway erring on the side of caution. In over 1000 injections he had had no bad results. The value of salvarsan in rendering patients non-infective to others was perhaps one of its most important functions. For example, patients with lesions of the mucous membrane of the mouth often took their meals in public restaurants and were a source of danger to the community.

Dr. J. C. MACWALTER (Dublin) thought that the time was too short to say whether salvarsan was a cure or not. The whole question of the treatment of syphilis by salvarsan reflected intense discredit on the medical profession. The number of doses now given was seven, whereas previously one was considered sufficient. It was not proved that any one organism was the cause of syphilis.

Lieutenant-Colonel MELVILLE, R.A.M.C., thought it was now considered that the spirochæte was really a bacterium. It was very important to the nation and taxpayer to diminish syphilis in the army. Salvarsan certainly cured soldiers while they remained in the service.

Dr. W. B. CRAWFORD TREASURE (Cardiff) considered there was a danger of undue pessimism. He asked, Could they rely on the Wassermann test now? He would also like to know which was the better preparation, salvarsan or neosalvarsan, and whether soluble or insoluble mercurial injections should be used?

Mr. MACDONAGH, in his reply, said he believed that they all agreed that sufficient time had not yet elapsed to enable them to form a clear judgment of the value of salvarsan. He could not say whether salvarsan or neosalvarsan should be preferred. Personally he employed neosalvarsan, as it was easier to use. Inunction was undoubtedly the best way to give mercury, but it required a skilled rubber. Intramuscular mercury was next best, and he did not doubt that the insoluble preparations should be used. He found in his own practice that cerebro-spinal syphilis was one of the most common recurrences, hence the importance of early diagnosis and thorough treatment.

Lieutenant-Colonel GIBBARD, replying for himself and Major HARRISON, said they did not believe in any routine method of treatment in syphilis, but they liked to have some standard to work upon, while each case received individual consideration. The question of economy was an important one, although there was never any difficulty in getting all they required from the War Office. They were unable to say whether salvarsan was better than neosalvarsan, but they were quite sure that the insoluble mercurial salts were preferable to the soluble ones.

FRIDAY, JULY 31ST.

The day's proceedings were opened by Dr. TOMKINSON, who contributed a paper on

Four Cases of Lahore Sore.

The patients were a father aged 56, a daughter aged 10, a son aged 8, and a son aged 11. In all cases the disease first appeared as a red papule of indolent character, spreading gradually on to the surrounding skin. Subjective phenomena were slight or not noticed. There was a tendency to crusting, and in some cases the lesions were multiple. Treatment had usually been made with solid carbonic acid snow, but X rays were also useful. A differential count of the blood suggested some disturbance of the ratio of polymorphonuclear and mononuclear elements—diminution of the former and increase of the latter. No abnormality was observed in the red cells. In the photomicrograph of the blood film a large endothelial (?) cell was seen containing many of the parasitic bodies, round or oval, mainly the latter, and also two masses of chromatin, one considerably larger than the other. The onset of the disease appeared to be related in some way with the cold season. The drinking water was obtained from deep wells, but near the house there were two stagnant pools, a possible breeding ground for mosquitoes. The patients slept in the open air in the hot season, and the

children state that they habitually slept on the right side. In reviewing the above details he remarked that the absence of subjective symptoms, save in the elder brother's case, and then only slightly, was a notable feature. The uniformity of the site of the lesions in the case of the three children was important. Each child had a lesion approximately on the middle of the left cheek, and the two sons, in addition, had each a lesion on the left forehead. The daughter had no forehead lesion; her greater quantity of hair might account for this. The proximity of the stagnant water, the sleeping in the open air, the assumption by the three children of the right lateral decubitus, and all their lesions being situated on the left side of the face, were strong presumptive evidence in favour of the opinion that the causative parasites, leishmania tropica, were conveyed by insects, and ones, it might be added, obviously of nocturnal habits.

In the discussion which followed the PRESIDENT suggested local injection of some mercurial preparation. He thought that was as likely to cure as salvarsan, which some had advocated.

Dr. R. CRANSTON LOW (Edinburgh) saw a case two years ago, the disease appearing on the edge of the ear. The patient had been absent from India for two years. The diagnosis was confirmed by the discovery of the parasite.

The next paper was contributed by Mr. J. E. R. MCDONAGH (London) on

The Rationale of the Wassermann Reaction.

He held that the reaction was an adsorption phenomenon. In other words, the lipoid-protein molecules coalesced and thereby became precipitated. Precipitation deionised complement and destroyed its oxydases; therefore, there was no electrically charged protein molecule to bring about hæmolysis. A trace of an amino acid or a fatty acid might readjust complement, and this was one of the reasons why sera became negative after salvarsan and also why some sera from active tertiary cases gave negative results. There appeared to be no necessity to employ all the words which had recently been coined in connexion with immunity work. These appeared to have carried them further in the dark than they were before their invention. Specificity was dependent upon the physical molecular configuration and not the chemical molecular configuration of the lipoid-protein particles. The action of antigen was due to the amino acid molecules. In all the true bacterial complement fixation tests these amino acid molecules were specific. In syphilis they merely acted by increasing the adsorption between complement and antibody (reagin). Antigen was not essential in the Wassermann reaction, as the adsorptive capacity of syphilitic sera might be great enough to fix complement; such sera were called amphoteric sera. If formalin was added to the extract of the syphilitic liver its antigenic action was increased, because the size of its colloidal particles was increased, hence its adsorptive capacity or its anticomplementary action was raised. Reagin had its origin in the mononuclear leucocytes, and some of the reagin in the cerebro-spinal fluid came from the cells of the choroid plexuses and the Nissl's granules of the nerve cells. Chemically, reagin was a lipoid-globulin. Complement was the lipoid-globulin portion of normal serum. It was the same substance as antibody, and only became antibody when the call upon the protective mechanism was increased. The action of complement was dependent upon the oxydase ferments which were attached to the protein molecules by means of the ions, and its action was one of adsorption.

Dr. A. WINKELRIED WILLIAMS (Brighton), in a paper on

Keratodermia Blennorrhagica,

stated that the disease was rare. Only four cases had been reported in Great Britain, and on the continent 17 cases had been collected. The clinical features were fairly typical and identical in all cases. Hard yellow transparent domes were found on a reddish keratotic base. They might form into ridges like mountain chains, and were sometimes accompanied by a diffuse keratosis of the soles. The lesions might begin as a telangiectatic spot, or red papules which soon were transformed into horny cones or domes, peeling off and leaving a bright red area. In all cases except two gonorrhœal arthritis was a complication. The condition was inoculable experimentally, but the inoculated areas must be covered by protecting watch glasses. In the case described there was a history of gonorrhœa 20 years ago, followed by a gleet cured 10 years ago. The patient was also the subject of what appeared to be rheumatoid arthritis. In his case the lesions were found on hands, fingers, soles, and legs. The only treatment was a gonococcal vaccine, and this not only cured the skin disease but also the arthritis. It was fortunate for the patient that he developed a skin eruption, as otherwise his joint condition might not have been cured.

Dr. HALDIN DAVIS (London) read a paper on

Infantile Eczema.

This disease, he said, formed a large proportion of cases in children's hospitals. It was necessary in such a discussion to define what one meant. He included conditions associated with primary vesiculation beginning on the face and tending to spread widely on all cutaneous surfaces. A reminder was often found in adult life on the bends of the elbows and in the popliteal spaces. Two theories as to the causation were held. The metabolic was mainly upheld by the French and German schools under the terms of arthritic and exudative diatheses. The second theory supposed that the disease was the result of external irritance, and he favoured that view. Many substances, for example, soap, were responsible, and the origin about the head, the only part of the body exposed in babies, was suggestive. He believed these babies were more delicate than ordinary children, and often died from bronchitis. The treatment was often very tedious, and he relied mainly on bland protecting substances, especially zinc oxide. Sometimes weak solutions of silver nitrate were helpful. In the most resistant cases small doses of X rays—not more than one-third of a pastille—not only diminished the itching, but cured the disease.

An interesting and full discussion followed this paper. The PRESIDENT said he allowed the infants to scratch themselves, cutting the nails short and rendering them aseptic as far as possible. He believed in Lassar's paste as a local application.

Dr. NORMAN WALKER (Edinburgh) did not find children suffering from this disease especially delicate; that was not his experience in Edinburgh. One of the most important things was to supply sufficient ointment so that the treatment might be continuous. The parts ought to be covered up and scratching prevented. He quite agreed as to the value of zinc oxide, chiefly because it was inert. Lassar's paste he thought too irritating. As a remedy to lessen itching and so stop the desire to scratch, he wished to remind them of the value of tar lotions. Diet should not be altogether overlooked, and mercurial purges were of great use.

Dr. J. C. MACWALTER (Dublin) did not believe in covering up the parts, and also permitted the patient to scratch freely. Nature suggested scratching, and he would allow nature to act in the way it had intended.

Dr. J. A. NIXON (Bristol) said that speaking as a general physician he could throw some light on the occurrence of death in babies who had eczema. They seemed to get well of the skin disease and then often died suddenly later; they rather suggested cases of status lymphaticus. Bronchitis and broncho-pneumania were also causes of death. He believed in some cases the eczema was really of an urticarial nature, although external irritation was responsible for many.

Dr. J. CRABB (London), in his capacity as public vaccinator, often saw eczema behind the ears. He thought this was the result of the mothers using a dirty towel.

Dr. CRANSTON LOW (Edinburgh) did not altogether agree with the previous speakers. Infantile eczema, he held, was a variety of seborrhœic dermatitis. The origin on the scalp and its spread downwards, involving the flexures, favoured this view. Three distinct conditions were required to produce the disease—susceptibility, irritation, and the seborrhœic organism. He found sulphur or ichthyol useful as local applications.

Dr. DAVIS, replying, said he was much complimented that his paper had given rise to so much discussion. Dr. Nixon had answered the question as to the cause of death in these cases. He himself had failed to get good results with sulphur or ichthyol. He agreed that grey powder was a valuable adjunct to external treatment.

Dr. MACWALTER, in a paper on the Use of Antimony in Syphilis, stated that there were three true specific drugs for this disease, mercury, arsenic, and antimony. He had employed antimony for 15 years; it never gave rise to optic neuritis or the other poisonous effects of

arsenic. He thought it especially useful for the skin manifestations of syphilis.

The PRESIDENT then declared the section closed. He desired to thank his fellow officers, but especially Dr. J. D. P. McLatchie, who had had so much to do with the work of the section. Dr. NORMAN WALKER then proposed a vote of thanks to the President, seconded by Dr. MACWALTER, which was unanimously accorded, and the meeting then terminated.

TROPICAL MEDICINE SECTION.

WEDNESDAY, JULY 29TH.

President, Professor W. R. J. SIMPSON, C.M.G.

President's Address.

In his opening address Professor SIMPSON alluded to the fact that the papers to be read before the section were numerous and the time limited, so that he felt constrained to make his introductory remarks as few and as concise as possible. In welcoming the members of the section his thoughts turned to the first meeting of the Tropical Diseases Section at the meeting held at Edinburgh sixteen years ago, and to the great advances in our knowledge which had taken place since that time. At that memorable meeting Sir Patrick Manson, the first president of the section, delivered an address entitled, "An Exposition of the Mosquito Malarial Theory and its Recent Developments," in which he dealt firstly with the behaviour of the malarial crescent outside the human body and its evolution into sphere, and flagellated bodies; also of his own far-reaching deductions drawn from his observations concerning the nature and probable further development of the parasite in the mosquito, based upon his own original work on the life cycle of the filaria in the mosquito. Secondly, Sir Patrick Manson had given an account of the brilliant discoveries of Sir Ronald Ross on the development and migrations of the malarial parasite in the mosquito and its transference, when mature, from the mosquito to another host. At that meeting a telegram was read from Ross announcing to Manson that he had succeeded in infecting sparrows with protosoma through bites of mosquitoes which had been fed on birds infected for a sufficient length of time to allow of the parasites to pass through their life cycle and to find their way to the proboscis of the mosquito. It was felt at the time that the master key had been found with which to open the door behind which were concealed the secrets and mysteries of the prevalence and prevention of a wide spread and destructive disease. Time had confirmed the correctness of Ross's observations. In this manner new lines of research were opened up, and new methods discovered as to the conveyance of disease. Thus a revolution was caused in our views as to the transmission of protozoal diseases, and by these discoveries men like Colonel Gorgas and others in the tropics had been able to deal successfully with insect-borne diseases which had prevented the economic development of large areas in the tropics. In this way the world owed a large debt of gratitude to Manson and Ross, whose labours had been followed and developed by a host of other workers such as Leishman, Bruce, and Castellani, some of whom had secured a place in the literature of tropical diseases. Professor Simpson regretted that with a few exceptions, such as Sir Alfred Jones, our wealthy men in this country had not awakened to the fact that endowments for the prevention of disease were as important as those for hospitals. England could not boast of such magnificent endowments for scientific research as those which Rockefeller and other men of means had placed at the disposal of Americans for work on tropical diseases. He hoped, however, that perhaps in time similar encouragement would be forthcoming for our universities and schools of tropical medicine. Meanwhile the demand for research work was being slowly and partially met in our own tropical possessions and in India by the establishment of laboratories. But the danger threatening the newly established laboratories was that research would be swamped by the amount of routine work required of them, and that their finances and administrative provisions for investigation would become inadequate. Professor Simpson claimed that we should not rest satisfied with the application of hygienic measures to protect Europeans in the tropics, but should continually apply our existing knowledge to improve the health conditions of native communities. Let us have, he said, a period of scientific and practical application following one of scientific research, or, better still, let them go hand in hand. After describing some of the unhealthy conditions found in the tropics attention was drawn to the high death-rates in such places. Some figures compiled by Colonel W. G. King, C.I.E., I.M.S. (retired), were quoted, showing that the death-rate in India was more than double that of England, and that the expectation of life at birth for an Indian male was only 22·59 years, whereas it is 46·04 in our own country.

Kala-azar and Allied Conditions.

This discussion was opened by Fleet-Surgeon P. W. BASSETT-SMITH, C.B., R.N., who first of all reviewed the research work and the knowledge which had accumulated during the last few years concerning leishmaniasis. He gave a short account of the disease and of its geographical distribution; he called special attention to the prevalence and importance of cutaneous manifestations of the leishmania infection found in South America. The work of Rogers in Assam and of Patton in Madras was described. The occurrence of kala-azar on the shores of the Mediterranean observed in recent years was discussed. With more accurate methods of diagnosis the disease was now more easily recognised. The methods by which the infection was believed to be spread and Nicolli's observations of the prevalence of the disease among dogs in Tunis were reviewed. So far the evidence incriminating the mosquito as a carrying agent of leishmania was slight, but it could not be denied that transference of the disease by blood-sucking insects was possible. The flea was under suspicion of transferring the infection from dog to dog or from dog to man. In South America flies of the Tabanidæ kind were the probable agents in infecting persons. Laveran believed that Indian kala-azar and the leishmania infantum of the Mediterranean littoral were one and the same, and that the parasite was L. donovani in both cases. The means of distribution were still uncertain. Fleet-Surgeon Bassett-Smith then gave some particulars of an interesting case treated by himself with atoxyl at Malta, and showed a temperature chart illustrating the variations in the pyrexia in this infection. At the conclusion of the session the author gave a demonstration, with microscopic slides, of the leishmania parasites in a side room.

Professor UMBERTO GABBI (Rome) referred to the details of a number of experiments which had been made on young dogs by Grassi, Bucelli, and others with a view of showing that the dog-flea was the carrier of leishmania infection on the shores of the Mediterranean, bnt Professor Gabbi had come to the conclusion from his own researches that leishmaniasis in the dog is not transferred to other hosts by the dog-flea.

Dr. DANIEL E. ANDERSON (London) described some cases of "uta" which he saw in Peru, in which half of the face had been eaten away by the disease and the nasal cartilages destroyed as in lupus. Recently it had been shown that "uta" was a form of leishmaniasis, though up to the last the Peruvian doctors had refused to believe that it could have any relationship to that malady. The appearances had some resemblance to gangosa. Syphilis might also have produced something like these results, but that disease was not known in Peru till after the arrival of the Spanish conquerors, although "uta" was then known.

Dr. P. H. BAHR (London) said that gangosa affecting the soft parts of the nose was always present in places were yaws was endemic. He also called attention to the rarity of kala-azar in Ceylon although so near to Madras, where the disease was often found.

Professor ALEXANDER FERGUSON (Cairo) said that in Egypt they were greatly interested in leishmaniasis. In many cases he had seen with some clinical resemblance to kala-azar he had failed to find the leishmania parasite.

Dr. G. A. WILLIAMSON (Aberdeen) had seen cases in Cyprus similar to those described by Professor Ferguson.

Dr. BAHR here remarked that they had had cases in London of this kind which were diagnosed as tropical splenomegaly.

Mr. JAMES CANTLIE (London) asked Professor Ferguson if the spleen had been removed by operation in any of the cases described by him.

Professor FERGUSON replied that 25 cases of removal of spleen in Egypt had been published. In this connexion Dr. BAHR said that in Banti's disease removal of the spleen had taken away the cause of the disease.

Captain W. E. MARSHALL, R.A.M.C. (London) mentioned cases of apparent kala-azar in the Soudan in which puncture of the liver had yielded negative results as regards the presence of the parasite. He said that the parasite often disappears for a time and then recurs. He mentioned a case in which a young monkey exposed to the chance of infection with a sick monkey in the same cage had contracted the disease, though the manner in which the infection was transferred could not be stated. He said both monkeys were infested with lice.

Dr. F. M. SANDWITH (London) asked if the lice had been examined by Captain Marshall for leishmania. There might perhaps have been an intestinal infection.

Professor GABBI, replying to some minor points, asked permission to speak in French, in which he could more clearly express his meaning than in English.

Fleet-Surgeon BASSETT-SMITH then briefly replied, stating that there was a general consensus of opinion that the constitutional forms of kala-azar are the same disease. He was careful not to give prominence to transference of the infection by one particular agent. Some of the experimental work on the subject, as had been pointed out by Professor Gabbi, could not altogether be relied upon. Maybe there were different carriers in different areas. But much more investigation was needed to settle the question.

The Ankylostomiasis Campaign in Egypt.

Dr. A. F. MACCALLAN (Egypt) gave an outline of the recently instituted campaign organised against ankylostomiasis in Egypt. Up to a few months ago no serious effort had been made to check the disease. The preliminary investigation began in September, 1913, under the supervision of a committee of which Professor Loos and Professor Ferguson were members, along with representatives of the Egyptian Public Health Department. They began merely as an annexe to one of the general hospitals, and this was increased to the establishment of a travelling hospital for 100 patients at a town of 16,000 population some ten miles from Cairo, with suitable staff, along with a laboratory for examination of fæces, blood, &c. A grant of £12,000 was available for the work during the present year, £6000 of which were provided by the Government and £6000 by the International Health Commission. The scheme now comprised one large travelling hospital with four other smaller ones for country districts, and in addition temporary use was made of buildings in some towns. So far 1011 cases had been treated, and 628 were, up to the present, certified as cured. But they had been greatly hampered in their work by want of a skilled staff. The treatment was largely by thymol and salines such as sodium sulphate. Examination was to be made of scholars in the schools, to estimate, if possible, the incidence of ankylostomiasis in certain districts. Latrine provision was admittedly insufficient for the people. There were difficulties in establishing a conservancy system and in carrying out drainage works. Leaflets with advice concerning the causation of the disease and its prevention were being distributed, and short lectures were given in hospital to the patients so that they might carry back to their homes knowledge concerning the avoidance of infection. Bilharzia infection also was common among the patients, the amount varying in different districts. Lord Kitchener had given great support to the campaign, and it was largely due to him that a beginning had been made in measures which would enormously improve present conditions; he had in various ways helped the campaign.

Dr. SANDWITH, who had been in Egypt this year, added his testimony to the great assistance rendered by Lord Kitchener in the efforts being made to reduce ankylostomiasis in that country. He pointed out that pellagra was often found along with ankylostomiasis. Some particular drug was wanted which would destroy the parasite without affecting the patient. Oleum chenopodii had given remarkably good results in Java and elsewhere, but when tried in Egypt it had been found quite inert. He could only explain this by supposing that the oil supplied to Egypt had been weakened or altered in some way so as to interfere with its action. But this oil ought to be further tried and not lost sight of.

Dr. D. E. ANDERSON (London) remarked upon the association of pellagra and ankylostomiasis in the West Indies.

Professor LLEWELLYN C. P. PHILLIPS (Cairo) detailed some experiments he had made with chloroform water and castor oil for the treatment of this infection. He placed thymol first for its beneficial action in the treatment of ankylostomiasis.

The PRESIDENT wanted to know how much of the money available for the campaign was to be devoted to treatment of ankylostomiasis cases, and how much for prevention of the disease in Egypt in the future. Treating a community, as Koch had once suggested, by quinine for malaria did not bring about the expected results, and recourse had to be had to anti-mosquito measures and drainage works. It was necessary not only to treat the patients, but the causes of the malady must be dealt with as well.

Dr. MACCALLAN briefly replied.

Is Emetin Sufficient to Bring About a Radical Cure in Amœbiasis?

Professor LLEWELLYN PHILLIPS, in his paper on this subject, described some cases of dysentery which seem to be quickly cured by emetin, but in a number of them there was a tendency to relapse. The specific parasite, the amœba, he said, usually dies quickly when passed out of the body in the stools, but unfortunately there is an encysted form of the parasite which persists in the intestine even after apparent cure by emetin, and such a patient becomes a carrier and a danger to others. Some drug which can destroy the encysted form of the parasite is necessary. Calomel is useful in some instances and thymol might be tried, but more investigation was needed.

This paper was discussed by Dr. SANDWITH and Dr. BAHR, the latter giving his experience of the treatment of amœbiasis in Ceylon.

Secondary Changes Due to the Presence of Bilharzia Eggs in the Spinal Cord.

A paper on this subject was read by Professor ALEXANDER FERGUSON, who said his communication was rather a preliminary note on the subject. He mentioned the wide distribution of bilharzia infection in the body of the person affected; it could be found in the cortex of the brain, in the heart, lung, spleen, liver, and kidney. Natives of Egypt suffering from the disease sometimes had anomalous nervous symptoms, with incompetence, paresis, or paraplegia. Professor Ferguson showed some microscopic specimens to illustrate his paper. In conclusion, he stated that he proposed when he had collected more material to make a further communication on the subject.

THURSDAY, JULY 30TH.

The Education and Position of the Sanitarian in the Tropics.

This discussion was opened by a paper prepared by Colonel W. G. KING, I.M.S., C.I.E. (retired) (London), which was read by Mr. JAMES CANTLIE in the absence of the author through illness. It was contended that the prevention of disease should be as thoroughly carried out in the tropics as at home. The direction of public health matters was often controlled by laymen without the special knowledge which was essential, and the medical officers, as in India, for example, detailed for preventive work had often mixed duties to perform, and therefore were unable to give their sole attention to sanitation and the prevention of disease. In England the executive sanitary officers could easily consult specialists in any difficulty, obtaining the requisite advice in a few hours; they could also forward material to be examined by expert chemists or bacteriologists, and have the results in a short time. In the tropics no such assistance was available, except in a very few instances. As it was absolutely necessary that expert advice should be procurable in the future in our colonies and dependencies, Colonel King suggested that a change should be made in the education of those who intended to devote themselves to the prevention of disease abroad. It was impossible to tax the human brain power beyond a certain point, and as the student's time and money were limited, it should not be necessary, Colonel King thought, for the future sanitarian to sacrifice so much during his five-years curriculum to general medical education. His course of study should, therefore, be so arranged that certain subjects dealing, for example, with curative medicine, operative surgery, and midwifery, might be omitted, and the time thus gained be given to special training in the sciences that are directly concerned with hygiene and preventive medicine. By this means in the course of time a supply of specialists in applied hygiene would be evolved and distributed in various parts of the tropics where

their services were most urgently required. Already tropical research in skilled hands had opened up wide fields for action, and brought into occupation by man vast areas previously uninhabitable with any safety owing to the unhealthy conditions that existed. He would separate the curative service from the preventive, and officers of the latter branch should have such a position as would enable them to carry out researches or devise measures for protecting the public health, untrammelled by fear of loss of office and subject to no interference of lay officers. The preventive staff should be subordinate to no other department. Already proof was available as to the advantages of giving the sanitarian in the tropics a free hand. The success of Colonel (now Surgeon-General) Gorgas in the Panama Canal Zone was one instance. The health officers in the German colonies had similar freedom and did admirable work. It would be necessary in future for the local governments to provide laboratories. Tropical public health services should be organised somewhat on the above lines as soon as possible. A diagram was shown to the section representing the way in which the preventive and curative services in a colony, while remaining separate, could work on side by side. Colonel King suggested that the section should pass a resolution in the above sense.

The PRESIDENT said that while agreeing with much of what Colonel King had advanced he could hardly concur in the change in medical education proposed by him for future tropical sanitarians. In his own opinion it was absolutely necessary that everyone aspiring to become an officer in the preventive service of a country should first of all go through a full medical and surgical curriculum, and that after he was qualified he should commence his special training in public health and hygiene. A good sanitarian must first become a well-trained medical man. Much required yet to be done in the training of men to undertake sanitary work in the tropics, and although the D.P.H. examination was a valuable test, something needed to be added for those intending to qualify for the tropics. England has a public health service, independent of the curative service, and this might easily be secured also in our colonies and dependencies. There would be advantage in engineers intending to take up work in the tropics receiving instruction in tropical sanitation and the conditions with which they might have to deal with later on.

Dr. J. CAMPBELL GRAHAM (Sumatra) gave his experience of public health in a Dutch colony. Little or nothing was done by the government of the island; everything in the way of prevention of disease was left to the medical men or to private enterprise. It was to the credit of the planters and their own medical advisers that drainage of coolie quarters and other work on their behalf was carried out.

Dr. ANDERSON agreed with the President as to the education of the sanitarian. As a result of visits to the colonies, he was of opinion that one must not expect good results till good men were at the head of the affairs of their departments. All preventive officers in the tropics should hold the D.P.H. He would not disturb the present occupants of the posts, but as vacancies occurred only men duly qualified by public health training should be appointed. In addition to the D.P.H. these men should undergo also a course at one of the schools of tropical medicine, the course for which should be made longer than it is at present. He would have entrance to the public health service in the colonies only by competitive examination; and if selection of colonies were allowed to candidates they should be required to make a special study of the prevalent diseases of that colony to which they were proceeding.

Lieutenant-Colonel J. PENNY, I.M.S. (Burmah), said he believed that in the future the curative and preventive services in India would be kept separate. The foundations had been laid for appointing a large number of sanitary inspectors in towns and districts. In his opinion all the higher officials in the public health service should have had special training in applied hygiene and preventive medicine.

Mr. JAMES CANTLIE thought that the proposed specialising of the sanitarians' medical education before qualification must be condemned. The full medical training must be carried out. He quoted Sir Patrick Manson as a type of investigator that should be held up as a model to others. His early investigations were made with a view to cure his patients and prevent the recurrence of their maladies Practical medicine had greatly stimulated research. He said he would propose a resolution at the close of the discussion.

Dr. R. BRUCE LOW (London) spoke of the need for trained sanitary inspectors in India and the colonies. It would be of advantage to send out experienced certificated sanitary inspectors from this country, who would assist in training the native sub-inspectors, and in this way a basis for gradual improvement in local sanitary conditions would be established. Many native medical men from India were appearing now for examination for the D.P.H. in this country, in order to take up posts in Indian cities and districts. This was a sign that great improvements in the sanitary conditions of Indian towns and districts were about to be carried out.

The PRESIDENT thought that some of the training of sanitary inspectors for the colonies could be carried out at the schools of tropical medicine. He agreed with the view that civil servants for administrative posts abroad should undergo a course of instruction in hygiene, for as a rule such officers could scarcely ever see the necessity for medical preventive measures, but looked only at their cost.

Mr. CANTLIE then proposed the following resolution, which was seconded by Lieutenant-Colonel H. R. WOOLBERT I.M.S. (London) (retired), and after being put to the section was passed unanimously, namely:—

> Whilst agreeing with Colonel King in his admirable scheme for the creation of separate curative and preventive medical departments in the tropics, this meeting considers that there should be no interference with the general education of the medical students, but that specialisation in hygiene should be entirely a matter of post-graduate training and work.

The Bionomics of Maltese Phlebotomi.

Captain P. J. MARETT, R.A.M.C., read a paper on this subject, and after the meeting he showed a number of microscopic specimens in illustration of his remarks. He described the conditions in which the fly lives and breeds; it prefers darkness for the breeding place along with some moisture and quiet. The food-supply was often obtained from the excrement of various other insects, such as wood lice. A certain temperature, about 75° F., was best for developing the fly, which haunts the interior of rubble walls, caves, and other places; being very small and elusive, it was not easily recognised even when sought for. There were three varieties of phlebotomi in Malta—viz., P. papatassi, P. minutus, and P. perniciosus. All three transmitted the virus of the phlebotomus, or "three days fever." These flies frequent dwellings, but as they did not go high the top rooms were comparatively free. By the knowledge gained respecting the fly and its habits measures have been devised for protecting the garrison of Malta against its fever-giving bites. In Malta the fly was infected by a species of fungus (empusa).

Sandfly Fever.

Colonel C. BIRT, R.A.M.C., who was unable to be present, sent a paper on this subject which was read by the secretary of the section, Dr. G. A. WILLIAMSON. Colonel Birt stated that the recognition of sandfly fever had been established by experiments on human subjects who voluntarily lent themselves to the tests, and the fact was therefore of some special scientific interest. The disease, he said, attacks by preference newcomers in the infected locality, and after 12 months' residence in an affected area the susceptibility appears to diminish. The onset is sudden, usually chills, severe headache and pain at the back of the eyeballs, backache, stiffness of the muscles of the body, drowsiness, flushing of the face, swelling of the eyelids, loss of appetite, and pain in the epigastrium; vomiting was noted only in a quarter of the cases—constipation is the rule. Epistaxis is not uncommon. The temperature rises rapidly to 103° or higher, but falls gradually on the third or fourth day. The pulse does not quicken with the rise in temperature, but remains about 80°. Lethargy and dyspepsia remain for a fortnight after subsidence of the acute symptoms. Relapses are sometimes caused by too active exercise during convalescence. Sandfly fever was formerly confused with ague. About 5000 to 6000 cases occur annually in India among the troops and Europeans. Many sandfly fever attacks have been regarded as influenza, or recorded as "pyrexia of unknown origin." Aspirin relieves the pain, and formerly much quinine was wasted in trying to combat the acute symptoms with this drug. By the measures employed to prevent the disease

among the troops the number of reported cases had fallen in Malta from 300 in 1908 to 104 in 1912.

Captain G. F. GRAHAM, I.M.S., also read a paper on Sandfly Fever based on notes of more than 700 cases which he had treated from 1911 to 1913 in India. The disease was first noticed in India by Major R. McCarrison, I.M.S., who gave it the name of "three days' fever." It appears, he said, to be more frequent in the subtropical than in the tropical zone. These sandflies cannot live seemingly at an elevation over 7000 feet. For some unknown reason hot and dry seasons seem to favour epidemics, according to the author's experience in Chitral. On one occasion he observed that a heavy rainfall checked an epidemic. The two forms of sandfly noted in connexion with the outbreaks he had seen were Phlebotomus papatassi and P. minutus. These flies easily pass through the meshes of an ordinary mosquito curtain. No specific parasite has yet been identified for this disease. One attack, as a rule, confers immunity, but this is not constant. Some epidemics are more severe than others, but the reason for this is not known. In India the incubation period is from two to four days. Quinine is of no use in the treatment, but aspirin gives relief to the headache. Diagnosis is not difficult in epidemic times. None of his cases proved fatal. Prophylaxis for soldiers is by evacuation of the camps if possible and the use of close-mesh mosquito curtains round about the patients so long as they are infective. Spraying walls with some insecticide had been tried.

Professor GABBI gave an account of some epidemics of sandfly fever in various parts of Italy, and especially in Sicily, at Messina and in its vicinity. The early cases were often mistaken for influenza. In certain instances there was strong suspicion that the disease had been imported by ship from Dalmatia and elsewhere. Professor Gabbi exhibited a spot-map showing the distribution of the sandfly fever epidemics mentioned in his paper.

Captain J. W. HOUSTON, R.A.M.C., read a paper on Sandfly Fever in Peshawar, giving his views on the disease from the Indian station point of view. Persons at all ages and of both sexes were attacked. The longer the troops remained in an affected locality the ratio of attacks was correspondingly diminished. The newcomers were most susceptible. The fly most commonly found in Peshawar in connexion with this fever was Phlebotomus minutus. Captain Houston gave some figures as to the cases of sandfly fever at the military station from 1910 to 1913, in all 2454 being reported in that period.

Professor LLEWELLYN PHILLIPS made some remarks upon the incidence of the disease in Egypt.

The PRESIDENT said that sandfly fever in its various aspects had been exhaustively treated by the various papers, and little was left for him to say. He drew attention to the phlebotomus fly frequenting rubble walls, which were common enough in many places, and when near dwellings were a constant source of danger to the inhabitants, because these kind of walls harboured all sorts of insects and vermin, including rats and snakes as well as sandflies.

FRIDAY, JULY 31ST.

Mr. JAMES CANTLIE gave a demonstration of the

Surgical Treatment of Colitis and Post-dysenteric Conditions.

He described the anatomy of the sigmoid flexure, which he regarded as the most important part of the large intestine, a point which he thought had not been fully recognised; it was the seat of many pathological troubles. He showed diagrams of this part of the intestine and spoke of its functions. At the point where the sigmoid flexure joined the rectum there was often local chronic inflammation and swelling, proceeding sometimes to ulceration. When the sigmoidoscope was used and came in contact with this point of junction there was an immediate feeling on the part of the patient that he must pass a stool. When the swelling and congestion of this part of the bowel were great, there was a feeling of always wanting to go to stool, causing strain and great discomfort. The trouble was localised in about two inches of the sigmoid flexure. There was often an alternation of hard and soft stools with mucus and sometimes with blood. He did not think the diet of the patient had any effect one way or the other. The swelling caused obstruction, almost amounting to stricture, in some cases. The examination with the sigmoidoscope not only aided the diagnosis but did good if the instrument could be passed through the obstruction. He never used an anæsthetic when passing the sigmoidoscope and never had any ill-effects from it. He had found good results in treatment by touching the swollen portion of the sigmoid flexure with pure carbolic acid; and he had used as a wash a solution of pure metallic colloid silver, which was non-toxic, however strong the solution might be. In bad cases he opened the colon above the obstruction and passed the sigmoidoscope down to the swollen part, day by day, till it could be passed through the obstruction. Mr. Cantlie, with the aid of drawings on the blackboard, made his remarks very clear. He also described a case, which he had treated in conjunction with Dr. J. M. Atkinson, of hepatic abscess lying between the liver and the diaphragm, and which had been evacuated by means of a long trochar and cannula with successful results.

The PRESIDENT added a few remarks of commendation on the clearness of Mr. Cantlie's demonstration on the blackboard of the anatomy and pathology of the sigmoid flexure. There was no further discussion of the subject.

The Comparative Diseases of the British West Indian Colonies.

Dr. D. E. ANDERSON read a paper on this subject and showed tables of the number of cases of certain diseases treated in the different hospitals of the West Indian colonies during the two years 1911 and 1912. During the years in question there were some marked variations in the number of cases of maladies treated. Some cases of malaria in Barbados were said to have contracted the infection while working as labourers in the Panama Canal Zone, the disease being brought back by them to the British colony where it was treated in hospital. The amount of ankylostomiasis in some places also fluctuated, this depending on the number of Indian coolies imported to work in the sugar plantations. The island of Montserrat seemed for the two years' period to have been the most healthy, judging from the hospital statistics, and St. Lucia had apparently the worst records for that time. Dr. Anderson mentioned some cases of pellagra which he had seen in some of the West Indian islands, and showed a number of photographs of such cases. There was, he said, an impression in the West Indies that pellagra often appeared among lunatics in asylums after a long period of detention. Dr. Anderson also mentioned that he brought back to England some specimens of larvæ of a parasite which caused "staggers" in sheep. A species of fly deposited its eggs in the nasal cavity of the sheep, and the larvæ subsequently worked their way into the brain and caused the development of the "staggers."

Dr. BAHR set little value on such comparative statistics for drawing conclusions. The colonies in which the cases were correctly and conscientiously reported would appear the worst, and those in which little trouble was taken to verify the diagnosis would seem the best in point of absence of some preventable diseases. For example, sprue is now common in the West Indies, but formerly it was never reported because it was not diagnosed or perhaps was ignored. The amount of ankylostoma cases reported in a colony was also misleading, for a great many cases die from diarrhœa and are certified from that disease instead of from ankylostomiasis; and under the heading of dysentery all sorts of diseases, including cancer of the rectum, were certified in the tropics.

Dr. SANDWITH quite agreed with Dr. Bahr's views as to accepting the reported hospital cases in a colony as representing the true condition of the place.

Mr. CANTLIE said it was not only in our colonial reports that these inaccuracies occurred. Much depended on the way in which the statistics were prepared.

Dr. WILLIAMSON had compiled reports for the Colonial Office. A form was supplied on which certain diseases were mentioned, and the certifying medical man had sometimes, when the malady was not on the form, to class it under some other name which was on the form. He gave some instances of this kind.

Dr. ANDERSON, in reply, said that matters would be improved if at the head of the departments dealing with these reports in each colony there were men with statistical training and knowledge. He spoke highly of the medical officers in the West Indies as a class, and mentioned the names of some whom he asserted were very inadequately remunerated for the valuable work they were doing.

The PRESIDENT also pointed out that where special means were taken to ascertain the presence of a particular disease in the colony many cases came to light, whereas when no

such steps were taken the colony might appear to be free from the malady, though it was actually prevalent.

Beri-beri: The Rice Theory and Recent Criticism.

In the absence of Dr. H. FRASER and Dr. A. T. STANTON (Kuala Lumpur, Federated Malay States), who had sent a joint paper of great interest on the above subject, the secretary of the section, Dr. G. A. WILLIAMSON, read it. The main object of the paper was to deal with the contentions of certain writers on beri-beri who professed themselves unable to accept the deficiency theory because they believed it incompatible with their clinical experience. Dr. Fraser and Dr. Stanton maintained that these writers had brought forward no facts of importance in support of the various alternative hypotheses which they had advanced. Because of the undue prominence given to certain feeding experiments on animals in recent years an idea had been formed that the theory of beri-beri causation in man rests wholly on the results of such experiments. The fact was, however, that the theory rests on quite other evidence. The present time was therefore thought by the authors of the paper to be opportune for restating the knowledge which had been gained as to the causation of beri-beri. The main theories were each in turn reviewed in the light of recent experience. Beri-beri as a place disease, they said, now finds few supporters, and though many have sought for it no evidence has been found to show that place *per se*, or considered as a nidus of infection, plays any part in the development of beri-beri. That the disease is caused by a microbe and directly communicable from person to person is also unsupported by trustworthy evidence. Mere conjecture as to the existence of a micro-organism causative of beri-beri is valueless when testimony can be adduced in support of the view that the malady is not communicable. Some tried to demonstrate that beri-beri is a disease of protozoal or other origin transmitted by an intermediate host, such as a bug, louse, or flea. Many experiments have been carried out to try to demonstrate this; these and others of a kindred nature have been entirely negative in their result. The work of Lovelace in Brazil makes it clear that there is a class of cases which clinically are closely related to beri-beri, but which are not related etiologically to a diet of polished rice, or apparently to the deprivation of any dietary constituent. Lovelace holds that, considering the multiplicity and diverse characters of the agents which are known to cause polyneuritis, it is highly probable that the term beri-beri is one that has been used to cover, not a single disease, but a group of maladies more or less indistinguishable from one another clinically. Dr. Fraser and Dr. Stanton reassert their position—namely, that their inquiries were made to seek an adequate scientific explanation of the occurrence of beri-beri in the Malay Peninsula. The application of the general principles which emerged from these inquiries had been attended by the eradication of the disease from many areas in the Far East where formerly beri-beri was a constant scourge. In conclusion, they asked their fellow workers who might have to deal with beri-beri outbreaks, and whose experience was opposed to the view that it arose through a defect in diet, to consider that beri-beri was after all only one form of polyneuritis, a condition which might be induced by a variety of causes, and that observations did not necessarily invalidate the conclusions arrived at in regard to the origin of the disease elsewhere. Facts rather than surmises were now necessary if they would combat successfully a theory the application of which in practice had been attended with widespread and beneficial results among the rice-eating peoples of the Far East.

Dr. CAMPBELL GRAHAM called attention to reported recurrences of beri-beri in places where improvement in a rice dietary had been carried out. Such instances seemed to him to interfere with acceptance of the food theory of the causation of the disease.

Dr. SANDWITH pointed out that it ought to be remembered that Fraser and Stanton began their original inquiry without any bias in favour of one or another theory. Beri-beri was undoubtedly the result of a one-sided diet. Ship beri-beri was not due to rice, but to flour and other articles of food which were originally, or had by keeping become, deficient in the necessary substances for normal metabolism. Even where bad rice was used on board ship its evil effects were removed by the daily issue of a ration of fresh meat. He observed that in the latest edition of Manson's "Tropical Medicine" no prominence was given to the view that beri-beri was a place disease.

The PRESIDENT spoke of the conditions under which rice, polished and unpolished, was stored in the East; he briefly summarised the arguments and evidence for and against the rice theory of the causation of beri-beri. Allusion was made to the temperate manner in which Fraser and Stanton had put forward their views, and the moderation which they had shown in dealing with the arguments of their opponents.

Recent Researches in Sprue.

Dr. BAHR read a paper based upon the researches which he had recently conducted regarding sprue in Ceylon, where the disease has been specially prevalent among all classes, including the European planters. After briefly describing the physical features of Ceylon the author gave his views as to the definition of sprue, and followed this by giving the geographical distribution of the disease throughout various parts of the world. He mentioned the occurrence of sprue in the native races, and discussed the supposed predisposing causes, as also the question of the communicability of the disease from man to man. The symptomatology, pathology, morbid anatomy, and etiology of sprue were each in turn fully dealt with. As a result of his investigations Dr. Bahr has come to the following conclusions: Sprue is a specific disease of tropical and subtropical countries, though it is possible that cases occasionally originate in the temperate zone. It is a prevalent disease in Ceylon, especially among Europeans; contrary to the opinion hitherto held, it occurs among the natives irrespective of race or mode of life. This fact, together with the occurrence of the disease in people closely associated with one another, suggests some local influence or some communication of a specific cause from man to man. Sprue is a variable disease; it may occur in a mild or in a particularly virulent form, and in common with many other serious maladies it is prone to sudden exacerbations, remissions, and periods of latency. There is evidence that the disease may occur in distinct clinical forms according to the portion of the alimentary canal attacked. Researches as to the composition of the stools point either to a complete absence or inadequacy of the intestinal digestive ferments. Other researches on the blood and the urine suggest that certain of the more important clinical features of sprue are dependent on an alimentary toxæmia. The pathological findings are also in favour of such a conclusion, and, if anything, point to an invasion with the thrush fungus (*Monilia albicans*) as being concerned in their production. At the conclusion of the meeting Dr. Bahr showed in a side room a number of microscopical slides and preparations illustrating his paper.

Mr. CANTLIE characterised Dr. Bahr's paper as excellent, and as giving a scientific explanation which fitted in quite well with the signs and symptoms of sprue. This disease had for its main characteristic an acid fermentation. As regards remedies his own method was to bring the patient under an alkaline treatment. He suggested frequent changes in diet as likely to help the sufferer, trying a meat diet for a few days, then a milk diet, and then a farinaceous one. These changes seemed to benefit the patient.

The PRESIDENT said that Dr. Bahr seemed to have struck upon what was probably the cause of the disease—namely, that a yeast infection produced the toxin.

The So-called Vomiting Sickness of Jamaica.

Dr. H. HAROLD SCOTT (Government Bacteriologist, Jamaica) contributed a paper on the above subject. In his absence Dr. ANDERSON read some extracts from the paper, the short time available not permitting the whole of the contribution to be read. This disease seems to be confined to Jamaica; it has a seasonal prevalence and runs its course rapidly. Facts respecting the malady have hitherto been very meagre. Dr. Scott surmises that it is due to an acute toxæmia or septicæmia induced by an organism which so far cannot be grown on any of the usual media. Probably the main seat of the disease is in the upper part of the alimentary canal. In the cases reported the mortality has been as high as 90 per cent. Dr. Scott recommends isolation of the sick at as early a stage as possible.

As time did not permit there was no discussion on the paper.

Dr. SANDWITH proposed that before dispersing the section

should pass a resolution regretting the absence of Sir Patrick Manson from the meeting, the sixteenth since the section was first established, and of which Sir Patrick Manson was the first president. Dr. Sandwith also suggested that a copy of the resolution should be sent to Sir Patrick Manson with the good wishes of the members of the section. This proposal was seconded by Mr. Cantlie and passed by acclamation.

The PRESIDENT then asked the section to pass a vote of thanks to the secretary, Dr. Williamson, for the able and businesslike manner in which he had carried out the secretarial duties, and this was unanimously accorded.

Mr. CANTLIE then proposed a vote of thanks to Professor Simpson for so ably presiding over the section's meetings at Aberdeen. This was seconded by Dr. SANDWITH, who recalled the fact that Professor Simpson, Mr. Cantlie and himself had first met in Egypt as fellow-workers in a cholera epidemic 31 years ago, and that they had all since then been intimately associated as teachers in the London School of Tropical Medicine, and as members and officials of the Tropical Medicine Section of the British Medical Association from the time that it was inaugurated. The vote was passed by acclamation and the proceedings then terminated.

THE ANNUAL EXHIBITION.

The position of the annual exhibition close to the rooms in Marischal College in which the business of the scientific sections was being conducted secured a good attendance. The space occupied by the exhibits was not large, but the dissecting room and the general laboratory of the College proved to afford ample accommodation for a smaller exhibition than usual, though one of considerable interest. The increased number of electro-therapeutic appliances shown was again a feature. Surgical appliances were largely represented; food products, however, formed but a comparatively small section of the exhibits; drugs occupied, perhaps, the prominent place. In presenting a description of the more important objects shown it is convenient to adopt the following classification: (I.) Electro-therapeutic Appliances, Surgical Instruments, and Hospital Appliances; (II.) Pharmaceutical Preparations; (III.) Special Foods; (IV.) Sanitary Appliances; (V.) Mineral Waters and Beverages; and (VI.) Medical Publications.

I.—ELECTRO-THERAPEUTIC APPLIANCES, SURGICAL INSTRUMENTS, AND HOSPITAL APPLIANCES.

Very general interest was shown in the imposing exhibit of Messrs. Siemens Brothers and Co., Limited (Caxton House, Westminster, London, S.W.), where a good idea of the advances made in electro-therapeutic appliances and X ray outfits could be obtained. The diathermy apparatus for the application of heat at any desired depth in the body by means of high-frequency currents has been developed into a compact and efficient machine. The apparatus really consists of a small wireless telegraphy station. The high-frequency currents (1,000,000 cycles per second), while producing the thermal results useful in nervous and rheumatic complaints, cause no irritation. In addition the apparatus can be used for producing coagulation temperatures in definite parts of the tissue. It has already given good results in the treatment of lupus. A well-designed X ray outfit for the general practitioner's use, and also a universal electro-medical apparatus combining most electric applications (e.g., galvanisation, cataphoresis, cautery, and so on), were shown by the same firm. The apparatus is very convenient of application and is perfectly insulated from earth.

The claims of the Medical Supply Association (167–173, Gray's Inn-road, London, W.C.) for their electric apparatus in the treatment of obesity are of interest. They have improved its application for local and general treatment, and an important modification has been introduced for the treatment of cardiac and circulatory derangements by means of an electrically controlled rhythmic interrupter. The apparatus has been installed at many of our well-known hydro-therapeutic stations. Messrs. Meyer and Meltzer (71, Great Portland-street, London, W.) made a special feature of their improved intratracheal anæsthetic apparatus designed by Dr. Francis E. Shipway, which is described as an extremely simple and portable apparatus for the insufflation method of inducing anæsthesia, while it can also be used for carrying on artificial respiration over long periods. They also showed their "emandem" high efficiency electric examination lamp and some new forms of masks and droppers for the open ether method, besides a number of surgical instruments of new and approved design. Amongst the interesting exhibits of the Holborn Surgical Instrument Company, Limited (Holborn-circus, London, E.C.), was their universal saline infusion apparatus for continuous proctoclysis and subcutaneous infusion. It possesses the following obvious advantages. It is simple in construction. The solution remains hot in the vacuum-jacketed flask. The amount infused is shown by the water gauge and graduations of the container, and a uniform temperature is easily maintained and the rate of flow controlled. There were a number of other useful surgical accessories, including specially prepared ligatures, in hermetically sealed all-glass tubes, and sterilised catgut, while there was a good selection of surgical instruments of modern design. Messrs. Charles Hearson and Co., Limited (235, Regent-street, London, W.) brought to the notice of the visitors chiefly their incubators controlled by the ingenious capsule which they have introduced, which has superseded the old mercurial regulator and thermostatic bar for governing temperature. The same method of control is adapted to their steam and hot air sterilisers. The new automatic electrically heated steam steriliser is a model of simplicity, convenience, and readiness in use. There were also exhibited a number of improved centrifuges of rapid speed and consequent efficiency.

An admirable assortment of modern surgical appliances appeared on the stall of Messrs. Down Brothers (21 and 23, St. Thomas's-street, London, S.E.), for inspection by the surgeon, as well as specimens of aseptic hospital furniture and a special model operation table known as the "Up-to-date." Messrs. Fassett and Johnson (86, Clerkenwell-road, London, E.C.) showed an interesting display of surgical accessories in their standard gauzes and aseptic ligatures. They exhibited also their well-known medical and surgical plasters, in which rubber plays an important rôle. An exhibit which attracted considerable attention was that of Messrs. Hoskins and Sewell, Limited (Birmingham). The chief novelty here was the "James" bed, designed to facilitate the open-air treatment of tuberculosis. Both bed and patient can easily be moved, even by the patient himself, provided he is not in an advanced stage of illness, a clear advantage in these special cases. Finally, there was a very interesting collection of surgical instruments at the stall of Messrs. J. Gardner and Son (32, Forrest-road, Edinburgh), including sets employed in obstetric practice, as well as an assortment of appliances adapted to the requirements of modern surgical routine.

II.—PHARMACEUTICAL PREPARATIONS.

There were many old friends amongst the pharmaceutical exhibits, and the chief interest in this section lay in the improved forms of administration offered and in the modifications proposed in regard to the particular presentations of the active principles hitherto employed. This latter, of course, means that the relationship of the chemical constitution of a substance to its physiological action is receiving attention. Messrs. Burroughs, Wellcome, and Co. (Snow Hill Buildings, London, E.C.) brought forward plenty of evidence in the preparations they showed of their purpose to engage scientific research in the interests of pharmacological progress. In addition to showing their well-known medicinal products, they demonstrated the advantages of their standard products, as, for example, the vaporoles (hermetically sealed containers), which include a great variety of medicaments adapted for administration by injection or inhalation. There were, further, a good selection of examples of their brands of serums, vaccines, and tuberculins prepared at their physiological research laboratories under scientific supervision. A recent product of this firm is laxamel, which we have reported upon in our analytical columns. It is a jelly compound of paroleine (80 per cent.) intended for the use of patients to whom the taking of ordinary petroleum, for laxative purposes, offers some difficulty. Another laxative the rationale of employing which appears to be sound is regulin, a combination of agar-agar, with aqueous extract of cascara sagrada. Its action in the bowels is assumed to be that of softening and loosening the fæces, and the assumption seems quite reasonable and justified by practical events. The preparation was exhibited

by the Regulin Syndicate, Limited (15, Cullum-street, London, E.C.).

Messrs. Parke, Davis, and Co. (50, Beak-street, Regent-street, London, W.) offered for inspection a great number of preparations of pharmacological importance. They draw attention to the development of physiological standardisation initiated in their laboratories 20 years ago, citing examples of the importance of its application in digitalis and strophanthus. Their exhibits included a selection of serums and vaccines, sterilised solutions for hypodermic use, the phylacogens, glandular extracts (e.g., adrenalin), and a number of other scientifically prepared substances of ascertained pharmacological potency. Messrs. Fairchild Brothers and Foster (64–65, Holborn Viaduct, London, E.C.) exhibited chiefly preparations whose value depends upon enzyme activity. Such were, for example, enzymol, a solution of proteolytic enzyme prepared for external use for hydrolysing sloughs, &c.; zymine, extract of pancreas; holadin, of powerful tryptic activity, sometimes combined with bile salts. Lastly, they exhibited a valuable and permanent preparation of lecithin in glycerine, glycerole, which is available for use in impairment of general nutrition. "Antiphlogistine" was the subject of exhibition at the stall of the Denver Chemical Manufacturing Company (St. Ann's-road, Bow, London, E.), a scientific poultice, being besides powerfully absorptive antiseptic also. The Bayer Company, Limited (19, St. Dunstan's-hill, London, E.C.), exhibited a large number of fine pharmaceutical products. These included the veronals, sulphonal, aspirin compounds, and so forth; but attention was particularly directed to their soluble aspirin, a compound of the acetyl derivative with calcium; to acitrin, which encourages the elimination of uric acid; to elarson, an organic arsenic compound which is said to be non-irritating; and, amongst others, to istin, a synthetic laxative said to be similar to the active principle of rhubarb and senna.

Messrs. Savory and Moore (143, New Bond-street, London, W.) exhibited some interesting preparations, amongst which was a special magnesia compound consisting of an emulsion of true magnesium hydrate, which, of course, serves as an efficient antacid without the production of gas, as with the carbonates; fructole, a combination of glycerophosphates and red bone marrow, free from syrup or sugar; fructolax, a laxative agreeable to take, its action depending upon the presence of pure petroleum. An interesting series of pharmaceutical preparations was on view at the stall of The Saccharin Corporation, Limited (36 and 37, Queen-street, London, E.C.). These included the already well-known local anæsthetic novocaine, which does not contain cocaine; trivalin, claimed to be a non-nauseating, non-toxic, and non-soporific substance whilst serving as a substitute for morphia; phytin, a natural phosphorus salt used in neurasthenia; and peristaltin, a glucoside from Rhamnus purshianus acting as an intestinal evacuant and administered as a hypodermic injection from ampoules. The Charles H. Phillips Chemical Company (14, Henrietta-street, Covent Garden, London, W.C.) will be remembered as the introducers of an excellent liquid magnesia known as milk of magnesia, which, as our analysis has shown, is an elegant emulsion of the hydrated oxide of magnesium. It is, of course, powerfully antacid, and does not cause eructation of carbonic acid gas which occurs when the alkaline carbonates are given. It has a peculiar cleansing, but non-corrosive, action upon the teeth and lining membrane of the mouth. This company also exhibited a syrupy compound of the phosphates of the alkaline earths and potassium with quinine hydrochlorate and strychnine.

Messrs. Zimmer and Co., Limited (Frankfort-on-Main, represented by Messrs. Widenmann, Broicher, and Co., 1, Fenchurch-avenue, London, E.C.), made a feature of euquinine and its preparations at their stall. Euquinine is described as a tasteless quinine and chemically as ethylcarbonate of quinine which possesses the same physiological action as quinine itself but without the inconvenient after-effects which ordinary quinine salts produce in some patients. It occurs also in the form of salicylate and tannate. The same firm exhibited aponal, a hypnotic claimed to possess the advantages that it produces no ill-effects on the gastro-intestinal tract and causes no sense of discomfort after the hypnotic effect has passed off. Chemically it is amylene-hydrate-carbamate.

(To be concluded.)

New Inventions.

TONSILLECTOMY AND A NEW GUILLOTINE.

WITHOUT wishing to enter in any way into the rival merits of tonsillotomy and tonsillectomy it must nevertheless be admitted that there are a number of cases which call for the latter procedure. To accomplish the enucleation or removal of the tonsil complete in its capsule there are two methods which are generally accepted, firstly, the dissection method, with its endless modifications, and secondly, the so-called Sluder or blunt guillotine method. A large experience of the latter method almost from the day of its introduction has convinced me that about 95 per cent. of all cases can be successfully dealt with by it, but it must be admitted that in a certain number of cases the operation to be successful must be accompanied by the exhibition of rather an undesirable amount of force. The reason for this is that after the blunt blade of the guillotine has been made

to travel outside the capsule, and the tonsil consequently invaginated through the ring of the guillotine, two layers of mucous membrane remain to be cut or crushed through before the tonsil can be taken out. In cases where peritonsillitis has been a marked feature there are often firm adhesions between the capsule and the superior constrictor which must also be severed, and this may require a very considerable degree of force, and the tonsil may have almost to be torn from the muscle. To obviate this it has seemed advisable to add a sharp blade to the ordinary blunt blade of the guillotine; this is made very thin, rather like a "Gillette razor" blade, and works under the blunt blade, and need not be used unless required. The operation is performed in the ordinary way, and the tissues as it were clamped by the blunt blade; then a touch from the sharp blade will serve to cut through the two mucous membrane reflections and any adhesions there may be. The blunt blade is worked by the usual modified Ballenger handle, and the sharp blade occupies the position of the blade in the Mackenzie instrument. To prevent the undesirable "rocking" that occurs in instruments with detachable handles the handle and the bladebed have, at the instrument maker's suggestion, been forged in one piece.

Messrs. Mayer and Meltzer have made the instrument for me.

W. G. HOWARTH, M.A., M.B.,
B.C. Cantab., F.R.C.S. Eng.

Harley-street, W.

THE CANCER HOSPITAL.—The committee of the Cancer Hospital, Fulham-road, London, having decided to inaugurate a post-graduate course in radio-technology, a combined laboratory and lecture room is being included in the new extension now approaching completion. Owing to the prolonged strike in the building trades some further delay must occur before the work is finished, but there is every prospect that the laboratory will be open by the autumn. It is proposed that the course shall extend over a period of two months, the fees being moderate. The lectures, illustrated as far as possible by models and experiments, will include two by Dr. Robert Knox, director of the electro-therapeutic department of the hospital, upon the clinical applications of radiations, and six by Mr. C. E. S. Phillips, F.R.S.E., dealing with the physics of the subject. The electro-therapeutic department will be open on three afternoons in each week, and experience may be gained there in the treatment of cases under the supervision of Dr. Knox. The laboratory course and experimental work will be under the direction of Mr. Phillips. A further announcement will shortly be made stating when the course begins.

THE LANCET.

LONDON: SATURDAY, AUGUST 8, 1914.

God Defend the Right.

GOD Defend the Right, and GOD Save the KING, who as the constitutional embodiment of our Empire comes out to champion the Right.

It is entirely unnecessary to say more in this vein; it is an impertinence to our readers to suppose that their patriotism wants kindling. The duty henceforth of a medical paper will be to try to do as much as lies in our power to mitigate public troubles and to ease the cruel strain upon both minds and material resources. With a sense of real pride we can reflect that the members of the medical profession to a man are placing their services at the disposal of the country in any capacity where they are required, and that those who cannot be employed in a direct manner will face cheerfully the extra work that will be entailed upon them, either by the recruiting of their colleagues or by any incidence of sickness in this country while the war conditions prevail. Our hospitals are for the most part in splendid working order despite the too frequent slenderness of their resources. Money will be required, and required in large sums, that these institutions may meet the calls upon them. This money the public will have to find; the service can be left to the medical profession as a whole, who can be relied upon to deal with the conditions as they occur, and to spare the great charities as much as possible.

War and Economy.

IN the deeply anxious position wherein our country is placed by the occurrence of a European war—a war of immense possibilities for evil from which we have been unable to stand aloof—the medical profession will be expected as a class not only to meet any medical exigencies arising out of the situation, but to demonstrate in a striking way the oft-quoted association that should exist between a healthy mind and a healthy body. We must remain calm, for otherwise we shall not remain healthy, and it is the positive duty of all persons who can compass it by self-control or self-denial to remain healthy, so that care and attention may be set free widely for those who are bound to suffer. That is the lesson which the medical profession will have to be monotonous in impressing upon the public, a public which so far, thank GOD, needs no such warning. For our public is exhibiting a highly creditable temper. There is very little over-confidence, and few attempts are being made to stimulate or simulate courage by yelling war-cries; yet we see no signs of unreasoning terror, even while there is no disguising the fact that we find ourselves engaged in the most serious naval, military, and political struggle which the world has ever seen. It is good that no one denies the strength and resourcefulness of those against us, or the impetus which their movement has received from readiness to strike the first blow; it is also good that there is no undue magnification of the risks that have to be run. We have, in short, the mental attitude implying that the nation feels that it is being strenuously, capably, and devotedly served by those in whose hands national as well as personal interests lie; and the clear call to us of the medical profession is to do all that we can in every direction to maintain the national temper in its present healthy condition.

In what way can those best serve the State at this juncture who cannot find a place in the lines of defence or coöperate actively in any auxiliary movement? The answer is clear. They must help themselves in such a way that they can best help others. An enormous amount of money will have to be found, or its equivalent in service, to assist those for whom the strain of the altered circumstances of living will be too great. There is certain to be severe privation, bringing in its train a great deal of sickness, and much of this inevitable trouble can be prepared against in one way, and in one way only—namely, by strict economy. Everyone knows this, but it is already quite clear that some people have a curiously mischievous idea of what economy should be; they practise it not as a social virtue but as an individual vice. It is essential, if the principle of self-help is to develop so as to constitute a real system of mutual help, that economy should be practised with discretion. Households which take the necessity for economy in too feverish a way may end in becoming as frightened at the thoughts of impending penury as at any of the horrors of war, and the equable temperament which ought to be preserved will actually be endangered by their furious precautions. The man who discharges all his servants, and condemns his family to live on cheese, is placing the burden of the maintenance of a certain number of young women more or less on the community, and a rich crop of sickness may result. He is also endangering the health of other women folk, who will be compelled by his thoughtless action to undertake duties for which they are unfitted. The duty of the householder is to keep his expenses down as much as possible, so that there may be more food and more money for distribution to others, but it is also his duty to the commonwealth to support those who might otherwise become a charge upon the public. The British householder will have to learn to look at prices, and we believe that rigid economy systematically practised will be a most salutary occupation for a very

large number of our middle-class households. It will be extremely interesting for them. In many cases they will be learning a new art, and it is possible for the practical lessons which they receive to be of great value to the nation in after times. Systematic economy does not consist in a prevailing and unnecessary parsimony. Such a "law of the house" may require as little thinking about as even unsystematic extravagance. The kind of economy we have in mind would lead the masters and mistresses of households to have a proper idea of how much actual food in raw material is required for a household of certain numbers and of certain ages. Thinking of food only, they should then learn how this should be best prepared to obtain the maximum of food value with the minimum of monotony; they would find out how much proportionally preparation should cost, what waste must take place in the various culinary proceedings, and how to use by-products and residues.

Those who decide upon ascertaining some of these things for themselves will have a legitimate occupation for their minds in a time of great anxiety; will be able to do their duty to the full to others dependent upon them; and will have a better chance of finding themselves with a surplus in material and money from which to help the many who will sorely need help, and to pay the heavy taxes which we must immediately expect. The maintenance of health in such households will be an easy affair, and not a few of their members, we anticipate, will show an absolute improvement in health. We are certain that in the trying times ahead of us the medical profession will waste no time in sentimental regrets or futile apprehensions. A large proportion of our body will be found with the forces, and in either service will uphold their great traditions. But where a man has no such opportunity he will devote every moment that can be spared from strictly professional duties to forwarding the public good by service or charity, and by helping to maintain the existing wholesome spirit.

Sanitary Authorities and Epidemic Diarrhœa.

THE season of prevalence of epidemic diarrhœa is approaching and the Local Government Board has by circular to sanitary authorities issued a public reminder as to the precautions which ought to be taken to diminish this serious affection of infancy. It is well known that many places which were notorious as "diarrhœa towns" have lost this unenviable distinction in consequence of the introduction of water-carriage systems of excrement disposal, and the removal of large fixed ashpits. This action has tended to diminish the number of house flies and their opportunity of carrying infected filth to food, but, as the circular indicates, it would be a mistake to assume that the problem of the prevention of this disease is limited to the destruction of flies. It is concerned also with the personal cleanliness of those who prepare the infant's food, and with the cleanliness of the house, backyard, court, and street, with or without the intervention of flies. Great as has been the improvement in recent years in methods of refuse disposal, and in the sealing of surfaces about the dwellings of the poorer classes in towns, there are probably few districts in which it would not be an advantage for the sanitary authorities to take stock of their methods, with the determination to improve their systems of refuse collection and disposal, to seek out the places where objectionable refuse remains accumulated, and to abolish as soon as may be unsatisfactory "conservancy" arrangements. It is to be hoped that the circular will achieve this object. Individual citizens, particularly in the circumstances entailed by the war conditions, must take the little trouble involved in complaining to the sanitary authorities of causes of nuisance.

The circular advocates the destruction of flies in the dwelling as an important additional measure, and states that an efficacious method is the use of saucers containing formalin (one teaspoonful to the half pint of water or milk and water) and a little sugar. A small piece of bread should be placed in the saucer as a place for flies to alight and drink. The saucers should be left out overnight in living rooms, all other vessels containing fluid being removed or covered over. Vessels containing milk should be kept cool by being placed in water or wrapped in a damp cloth and should be covered, for example with a square of butter muslin weighted at the corners with shot or sand. The provision of wholesome places for the storage of food, and other elementary precautions, are also advocated. The Board attaches special importance to home visiting, during the summer and autumn months, by health visitors, under the direction of the medical officer of health. The circular suggests that special visits should be made to families in which it is known that there are infants from three to 12 months old and in which breast-feeding of these infants is known to have ceased. This information can, of course, best be obtained as a result of inquiries under the Notification of Births Act, which is now in force in counties and districts representing over two-thirds of the population of England and Wales. The question whether its adoption, outside the large towns, should rest with the local sanitary authority or be taken over by the county council for the county as a whole is a difficult one. It is obvious that most of the work which the Local Government Board desires to see effected falls within the province of the sanitary authorities, who need all the information to be obtained by birth notification or otherwise. The Board, however, appears to favour county notification on the ground that home visitors can be appointed who are also inspectors of midwives or tuberculosis visitors under the county council.

It is no doubt intended that when notifications are made to the medical officer of health of the county they will be sorted into sanitary districts, so that the necessary information may be sent on as soon as possible to the various district medical officers of health concerned. This is one of several important matters where adjustment will have to be effected between the Local Government Board, county authorities, and those responsible for the administration of the National Insurance Act.

Annotations.

"Ne quid nimis."

SCIENTIFIC RESEARCH AND THE LOCAL GOVERNMENT BOARD.

THE President of the Local Government Board has authorised the following researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease. These are in addition to the investigations already announced. 1. An investigation of the details of the technique in carrying out Wassermann's reaction for the diagnosis of syphilis. The Army Council have consented to permit Major W. S. Harrison, R.A.M.C., to carry out this investigation. He will act in collaboration with a subcommittee of the Pathological Section of the Royal Society of Medicine. 2. An investigation by Mr. H. J. Gauvain, in collaboration with the Board's pathological staff, into the cutaneous tuberculin reactions of cases of tuberculosis of bones and joints of bovine and human sources. 3. A continuance of the investigations of Dr. F. W. Twort and Dr. E. Mellanby on infantile diarrhœa, with special reference to the conditions governing the absorption of toxic substances from the alimentary canal. 4. A further investigation into the causes of stillbirths by Dr. C. J. Lewis and Dr. J. Dale.

THE THORN IN THE FLESH.

THE nature of the "thorn in the flesh" which afflicted Saint Paul has long been a subject of speculation. The late Lord Lister's explanation of the cryptic phrase is among the most recent and the most probable, for, according to Sir Rickman Godlee, he maintained that it was neither a wife nor weakness of eyesight, but an impediment in the speech. Lord Lister himself stammered somewhat and suffered at his inability to express his clearly arranged thoughts in any elocution worthy of his subject. It has been pretty generally held that the thorn of affliction in the frail body of Saint Paul was a nervous disorder. Thus Lightfoot, in his commentary on Galatians, is of opinion that the apostle suffered from some trouble akin to epilepsy, but not involving loss of consciousness. The same commentator holds that the vision referred to at some length in II. Corinthians, xii., was an overpowering trance in the nature of an epileptic seizure. "I knew a man," Saint Paul writes in this epistle, the authenticity of which is not disputed, "above fourteen years ago (whether in the body, I cannot tell; or whether out of the body, I cannot tell: God knoweth;) such an one caught up to the third heaven." In paradise the man, who is plainly the Apostle of the Gentiles himself, heard "unspeakable words, which it is not lawful for a man to utter." Later, he continues: "Lest I should be exalted above measure by the abundance of the revelations, there was given to me a thorn in the flesh, the messenger of Satan to buffet me, lest I should be exalted above measure." This thorn was, of course, the nervous disorder. Bishop Lightfoot compares Paul to King Alfred, who was racked with various pains, and we might extend the parallel by including him in the extended category of epileptics of genius. Through his employment of metaphor the second founder of Christianity has left us in doubt as to what really ailed him. From a passage in Galatians iv., 13, Sir W. M. Ramsay in his "Saint Paul the Traveller and Roman Citizen" is led to suppose that the "thorn" meant "a species of chronic malarial fever," but, be that as it may, we are inclined to think that the word used by Paul himself has not been sufficiently considered. "Thorn" should be really translated "pale" or "stake." In Greek it is *skolops*, and the allied verb (*skolopidsō*) refers to the process of impalement still known and practised in Persia. Saint Paul was an elderly man when his worst troubles began. He was well over 50, of a slight and frail habit of body, in strange contrast to the vehemence of his epistolary style, and he may well have suffered from some of the ailments which afflict men who are well past middle life. The word "pale" suggests sharp insistent pain or perhaps only trouble, which might range from gout to sciatica. Gout has of late been described as the spur of genius. Perhaps Saint Paul was gouty.

THE MOVEMENTS OF THE VERMIFORM APPENDIX.

THE *British Journal of Surgery* for July contains an interesting account of researches into the movements of the vermiform appendix which, though avowedly incomplete, yet break new ground and are therefore worthy of note. These investigations, carried out by Dr. James A. Gunn and Mr. R. H. Anglin Whitelocke, depend on the fact, already utilised by the former, that muscular viscera can be kept alive and capable of normal movement if they are transferred to unoxygenated Locke's solution at room temperature as soon as they are removed and subsequently to oxygenated Locke's solution at body temperature. In this latter medium they revive and may retain the power of movement for as long as 24 hours after removal. The research under consideration embraces an examination of a number of appendices removed at operation, 12 of which have been examined within six hours of removal. The curves reproduced are of great interest in that they show that the movements of appendices which depart but little from the normal are closely similar to those of the large intestine. They consist of large rhythmic movements lasting almost half a minute, separated by intervals of something like the same duration, and obscured to a greater or less extent by briefer movements of three or four seconds' duration superimposed on the others. It was also shown by further experiment that the same description is applicable to the movements of the exsected appendix of the rabbit and also to the movements of the rabbit's appendix *in situ*. By means of the application of adrenin on the one hand and pilocarpine on the other, it was shown that

the innervation of the appendix probably corresponded with that of the large intestine—i.e., that it receives one set of impulses abolishing tone and stopping the rhythmic contractions, and another set of impulses exercising a precisely opposite effect. In the case of the large intestine the former set of stimuli are transmitted by the splanchnic and the latter by the pelvic visceral nerves, and the inference is that the appendix is innervated from the same sources. As to the influence of age and disease on the appendicular movements, the writers do not feel themselves able to speak with confidence until a larger amount of material has been dealt with, but they have already noticed a greater liveliness of movement in the appendices of younger subjects, and even severely damaged appendices may preserve their motile powers almost intact. These observations seem to point a road which, if followed up, may lead to more accurate knowledge as to the part which chronic constipation plays in the provocation of appendicitis.

EXCISION OF THE GASSERIAN GANGLION IN TRIGEMINAL NEURALGIA.

THE article of Goyanes in the *Revista Clinica de Madrid* of June 30th is a good example of the gulf between theory and practice in surgery. It is unquestionable that excision of the Gasserian ganglion is an extremely difficult operation. It is also a most useful and merciful one when we consider the pains of trigeminal neuralgia which it allays, and the intricate apparatus of nervous machinery which sets those pains at work. But what a stumbling block is this machinery for the expert surgeon, who studies the especial functions of these nerves, the adjustment of technical means to surgical ends—the surgeon who trains himself in critical measurement of his material, in the selection and rejection of the operative details which suggest themselves after his rough conception of the operation is formed. The remarkable thing about Goyanes's technique—the thing which distinguishes it from most contemporary methods—is not surgical. It is delicately surgical, of course. But the surgery is not the striking, important, and distinguishing part of Goyanes's method. Supreme technique is his more uncommon distinction. He saw that operations come and go; it is the humbler task of the technical expert to try their merits by practising them on the dead body, in this way to record and fix the best method. In this humbler task Goyanes became thoroughly proficient before he operated on the living body. We published in THE LANCET of May 25th, 1907, one of these technical studies which illuminated many difficulties of this particular operation. Krause's method, for instance, leaves uncertainties on various interesting points. The obstinate derangement of the ophthalmic branch of the trigeminal nerve is one. It appears to depend on the wide and deep incision of the zygomatic and temporal bones necessitated by the Krause operation, and tends to paralysis of the eyeball. The question that arises for the surgeon is whether the paralysis which happens is really an injury to the nerve. The sympathetic, as Seydel observes, sends fibres to the Gasserian ganglion, and injury to the ophthalmic filaments is difficult to prove. The expert surgeon who has tried the zygomatic incision, by which Rose first excised the Gasserian ganglion, may reasonably assume that if the paralysis frequently occurs, it is at least probable that the surgical failure is a failure of the technique. This is entirely right, as Goyanes believes, and accordingly he rejects the method of Krause. He prefer Lexer's operation, which consists in an incision along a straight line between the superior border of the eyebrow and the superior border of the pinna of the ear. This incision has precise limits, and the surgeon who abides within them avoids mistakes. Raising the osteo-fibrous flap according to Krause, Goyanes and San Martin cut, in the bone beneath, a wedge whose base corresponds to the line of the infra-temporal crest and its vertex to the foramen ovale. The second excision they make is that of the cranium at the foramen of the inferior maxillary nerve, which allows full scope for the niceties of operation. It facilitates approach to the Gasserian ganglion and the flow of fluid which accumulates in the cave of Meckel below the dura mater. Of great importance, according to Lexer, is this detail of technique. In describing the place where the ganglion lodges, Goyanes says that it is best to raise the cerebral convolution and next to separate the dura mater. He uses and recommends for this purpose strips of gauze, for the spatula of Krause causes a pressure, which in several cases has produced symptoms of aphasia. The separation of the dura mater, by which he probably means its dissection from the brain, is accompanied by hæmorrhage from the middle meningeal artery. It was easily stopped, and tying of the artery was not necessary. For the dissection and isolation of the ganglion the wing of the sphenoid was partly excised. At this point the foramen ovale becomes visible. Following the two branches of the trigeminal, it was easy to lift up the ganglion. At the same time the brain is raised with a spatula. In cutting the ganglion from the nerve exactness is very necessary, lest we injure its trunk as well as the origin of the trifacial and the near-lying oculo-motor nerves. This is an excellent and orthodox treatise on a difficult operation. It gives a sound exposition of the real rules that govern a good style of surgery, and will fulfil the aim of the author, which is to fix an amœbean technique, to shorten an otherwise tedious method. Thanks to the *a priori* knowledge derived from experiment in the dead body he makes no omissions. He describes three cases resulting in complete relief from quite intolerable misery, which had been too great for any other remedy.

NURSING IN WORKHOUSE INFIRMARIES.

THE executive committee of the Workhouse Nursing Association, of which the Princess Christian of Schleswig-Holstein is the president, has issued a statement calling attention to the unsatisfactory arrangements for the care of the sick in small rural workhouses. The statement points out that recent Local Government Board Orders have left essential alterations untouched and that some vital changes are still necessary. While nursing by inmates is prohibited, they still perform such duties as bed-making and the washing of helpless cases, and are employed on other duties which should be left to the skilled nurse. It is also pointed out that serious friction occurs in consequence of the head nurse in the sick wards being controlled by the master or matron, and rightly draws attention to the evils of placing the selection of temporary nurses in the hands of the master instead of the medical officer, and the absence of provision for

direct communication between the medical officer and the nurse. The scarcity of nurses for the Poor-law service, owing to unsuitable conditions of work, is also alluded to. Fully recognising the careful consideration which the matter should receive the executive committee submitted in their last memorandum to the Local Government Board the following resolution: "That in view of the difficulty experienced by guardians in obtaining trained nurses for Poor-law infirmaries, this association urges the Local Government Board to establish a nursing service under the control of the department, by which means not only will the supply be efficiently regulated, but a status given to Poor-law nursing which will attract women who now look on Poor-law work as inferior to hospital and private nursing; but that, as a preliminary measure, an advisory committee of experts should be appointed by the Local Government Board to formulate a scheme."

THE DIAGNOSIS OF "GASTRO-JIJUMSTOMUS."

THE illegibility which is proverbially characteristic of medical prescriptions has often been defended on the score that the patient should not be encouraged to know anything about the drugs which he is taking. Medical students, too, are frequently sinners in respect of calligraphy; and in their case-notes they frequently complicate the deciphering of their writings by the adoption of an elaborate system of abbreviations and symbols defensible only on similar grounds of a desirable obscurity. It is not surprising that when such notes fall into the hands of the public their transcription may result in ludicrous mistakes. It is true enough that access to case-notes in hospital is not allowed either to patients, their doctors, or their legal representatives, but when the notes are placed, as so often happens, in the same frames as the temperature charts and treatment cards, it is impossible to prevent unauthorised persons from now and again perusing and copying them. A recent example of the results of this process has been laid before us. It consists of extracts from the hospital case-notes, copied by a patient for the purpose of establishing a claim upon an insurance company. The patient was in a well-known London hospital, where he was obviously very carefully and thoroughly treated. His account begins: "Clinical microscopist removed part of stomach wall. Ulcer on stomach and ulcer on duodenum. Structure of silurus and malignant." This passage was probably taken from the spaces at the top of the notes provided for purposes of reference and indexing, for the first sentence should doubtless be divided into two parts between the second and third words; the last one, it may be hazarded, should be "stricture of pylorus, non-malignant." We shall leave our readers to puzzle out for themselves some of the remaining gems of this comedy of errors, which continues with an account of a consultation between a physician and a surgeon and proceeds to a description of the subsequent laparotomy: "A vertical incision was in the middle line extending from infexis aspect of stanum for about 15 or 16 inches ..... the pentineums exposed and ..... a lump could be felt in the region of the pybrus. ..... The stomach was emptied by the promised end of the aioistant. ..... The proxurinal end was sewn up, and the piece of stomach and duodonum between the two divisions removed. That portion which had been removed was then opened and an ulcer found at the junction of the stomach and duodenous and another ulcer at the point of division of the stomach ..... a part of the posterior wall of the stomach was brought and approxunicted to the first loop of the prepunum by clamps. The periotnanum of the two parts was then sewn together with thread. ..... The appendix was then examined and proved to be very long and entangled and controlling the ileat effluent and had obviously been chemically inflamed ..... Oxygen was administered and also fruitary extract. He was also imperved with several limbs of saline ..... Diagnosis: Gastro-jijumstomus." Besides the laughable, though not unnatural, errors of transcription into which the patient fell in copying out what were probably hastily scrawled dresser's notes, these extracts throw also some interesting lights upon the operation. Whether the dresser really wrote "chemically" for "chronically" inflamed (appendix) it is, of course, impossible to say; but the passage about the "ileat effluent" contains internal evidence upon which a shrewd observer might make a very fair guess as to which side of the Thames the patient was warded. For the rest, the incident serves to show that sufficient care is not always exercised to keep hospital case-notes, which are the copyright of the institution, as strictly private as they ought to be; but the problem of doing so, it must be admitted, is very difficult.

URINARY REACTIONS WITH METHYLENE BLUE.

Dr. Da Pozzo has lately been conducting a series of experiments as to the value of these reactions.[1] With regard to Russo's reaction, which consists in adding four drops of a 1 per cent. solution of methylene blue to the urine, and in the production of a green colouration in cases of typhoid fever, out of 60 cases of other diseases the experimenter obtained a positive reaction in 14 instances. Using Loeffler's blue instead of ordinary methylene blue solution he obtained the typical emerald green colour whenever it was also present with the latter. From the results obtained it may be concluded that a positive result is easily obtained in Russo's reaction in a considerable number of morbid processes other than typhoid infection, and has therefore little clinical value. A further series of observations were made with the so-called Fuchs and Loutz reaction with special regard to its diagnostic value in relation to diseases of a malignant nature and principally with carcinoma and sarcoma. The method adopted was to add 3 to 5 drops of a Loeffler blue solution into a beaker of urine recently passed. The urine was stirred and left for 12 to 24 hours in an ordinary temperature. As a control a beaker of urine not so treated was taken. The blue colour is said to disappear in cases of malignant disease and in pregnancy. The results showed that in 14 cases of neoplasm the reaction was positive in 7. In 7 samples of the urine of pregnant women it was positive in 5. It was also positive in a certain proportion of urines from patients suffering from various other diseases, and in 3 out of 7 cases of healthy individuals. It was, moreover, found that the discolouration of the urine might take place after the 24 hours had elapsed, and sometimes even after eight to ten days. Dr. Da Pozzo believes that the reaction would become positive in a still larger number of cases observed

[1] Gazzetta degli Ospedali, Anno xxxv., No. 33, July 12th, 1914, Corso Magenta, Milan.

if the urine treated with Loeffler's blue were left longer. He further investigated whether the presence of albumin, of phosphates in excess, or of urobilin had any influence on the reaction, but he was unable to trace any connexion between it and the more common pathological elements of urine. The conclusion arrived at, therefore, was that Fuchs's and Loutz's reaction bears no relation to the existence of neoplasms nor with the development of pregnancy, and in this sense it cannot be recognised as having any value as a guide, since the reaction takes place after a longer or shorter interval in a large number of other morbid processes and may be markedly positive even in healthy individuals.

ANATOMICAL METHOD AND THE DESCRIPTIVE ANATOMY OF THE ILEO-CÆCAL VALVE.

THE idea that the descriptive anatomy of the human body is a subject long since exhausted is common among those who confine themselves to more modern branches of medical research. Yet such an idea is continually being shown to be erroneous. Anatomical descriptions have undergone a series of most interesting phases, each phase being determined for the most part by the prevailing method of preparation of anatomical material and by a more extended knowledge of the function of parts. Among the old masters of anatomy material was of necessity examined in its fresh condition, and in their writings some of the most accurate descriptions of gross anatomical conditions are to be found. The possibility of preparation and preservation of material, however, extended the field of research, but the descriptive anatomy based upon the examination of preserved material, although making many important advances, failed in many ways to reproduce the natural accuracy of the older work. A new phase arose, and this phase is marked in our museums by the dried and varnished specimens which are nowadays usually relegated to some top shelf. This was a period of injections, and of a multitude of new devices of preservation, and though it made more perfect the study of blood-vessels, of tubes, and of ducts, it did little to advance the knowledge of other viscera. A more recent influence upon descriptive anatomy was exercised by the introduction of formalin; and conspicuous in this phase we may note the modern descriptions of most of the abdominal and thoracic viscera. The formalin era is too recent for a proper estimation to be made of its influences for good or ill upon descriptive anatomy; but it is becoming more and more evident that some corrective is required from time to time to readjust the ideas derived from formalin-hardened viscera. For the study of the ileo-cæcal valve Dr. A. H. Rutherford has administered the corrective.[1] He has traced the descriptive anatomy of the ileo-cæcal junction from the time when cæca were inflated with gas and, having been dried and varnished, were preserved as typical of the conditions prevailing in the living body. The various appearances described as normal in cæca preserved and hardened in various reagents have been collected together. The fresh condition, as seen in animals killed suddenly, has also been studied; and, finally, Dr. Rutherford has put on record the picture of the actual living ileo-cæcal junction as observed through an artificial anus made in the anterior cæcal wall. This living ileo-cæcal orifice was seen as a rounded papilla, bright red in colour, and having a dimpled orifice at its summit—an appearance, of course, which differs widely from the description which, best realised in the dried inflated specimens, has become stereotyped in our text-books. There is far more in all this than the mere correction of an anatomical description. The slit-like ileo-cæcal valve of the distended, dried, and varnished cæcum could be regarded only as a valve—a flood-gate—which passively prevented regurgitation of cæcal contents into the ileum. From such an idea of its structure its function was argued. It was only some 10 years ago that Professor Arthur Keith as an anatomist, and Dr. T. R. Elliott as a physiologist, saw anything more than this valve action in the ileo-cæcal junction, and demanded a sphincteric action controlling entry from the small gut as well as reflux from the colon. It is still more recently that Dr. A. F. Hertz and Dr. Alan Newton showed the true action of the ileo-cæcal sphincter; and it may be said that the Hunterian ideal is again realised, for the ileo-cæcal junction described by Dr. Rutherford is exactly the sort of orifice one would expect to carry out the function described by Dr. Hertz and Dr. Newton.

[1] The Ileo-cæcal Valve. By A. H. Rutherford, M.D. Edin. London: H. K. Lewis. 1914. Pp. vii + 63, with two coloured plates and 20 half tone plates. Price 6s. net.

ACCIDENTAL SYPHILITIC INFECTION: PRIMARY SUBCUTANEOUS SYPHILOMA.

Metchnikoff has shown by two observations that the syphilitic virus in monkeys can be transmitted to man; Buschke also demonstrated similar transmission to man from the virus in the rabbit. A case is further reported in which, as the result of an accidental prick by a Pasteur pipette which had recently been used for inoculation into rabbits of a testicular emulsion of syphilitic virus of this animal, a man became infected with syphilis. The patient was a laboratory attendant. He received the prick at the root of the right little finger on its palmar aspect. The virus was of the sixteenth passage through rabbits. Immediately after the prick the wound bled freely, and it was washed with a solution of perchloride. Seven days after, however, the finger became swollen and tender; there was no induration. A month later the patient felt indisposed. The temperature was raised. A radiographic examination of the finger showed "a process of rarefying osteitis." A week after the region of the first phalanx was much swollen. There was tenderness and the parts appeared uniformly reddish-violet. The subdermal tissues down to the bone were swollen and hard, and the finger remained in semi-flexion, although the metacarpo-phalangeal joint was free. In the left axilla were glands enlarged, hard, and painless; they were also found in the groin, submaxillary, and occipital regions. There were diffuse roseolar rashes over the body. Headache was intense. The Wassermann reaction was positive. The results of neosalvarsan given intravenously on four occasions were entirely satisfactory. The fingers became normal again, the rashes and headache subsided, and the Wassermann reaction became negative. A rabbit inoculated with the man's blood developed syphilitic signs. The case is considered to be unique as an example of primary subcutaneous syphilitic infection. It demonstrates also the persistence of the capacity of the syphilitic virus to infect man, even though it had been in rabbits for 22 months.

A TELEGRAM has been received from the secretary of the Congress, Dr. Jermann, of St. Petersburg,

announcing that the International Ophthalmological Congress, which was to have been held at St. Petersburg on Monday, August 10th, has been postponed.

WE are asked to state that the library and offices of the Royal Society of Medicine, 1, Wimpole-street, London, W., will be closed for cleaning until Sept. 1st.

Mr. E. Saville Peck, M.A., of Cambridge, has been elected President of the British Pharmaceutical Conference. The next annual meeting will be held at Scarborough.

THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

FIFTH ANNUAL SESSION HELD IN LONDON DURING THE WEEK OF JULY 27TH.

THE Congress, which came to an end last week, went throughout its course without a hitch. The sessions were well attended and the metropolitan hospitals were daily visited by appreciative groups of earnest students. The interchange of knowledge and of point of view was wide and intimate and nothing but good to surgery can come of such a meeting. We are particularly glad to feel certain that the surgery of this country emerged from the strict trial of its merits with an increased reputation, and those members of the public who conceive it to be necessary to rush abroad for specialists' opinions will, we trust, note the fact.

Dr. W. L. Rodman, of Philadelphia, the President-elect of the American Medical Association, on his inauguration as Vice-President of the Clinical Congress, spoke of the feelings of American members of the medical profession towards the mother country in words which should be recorded. "Great as our obligations are as Americans," he said, "they are vastly greater as members of the medical profession, since from the birth of our country England has been the chief source from which our inspiration has been drawn. In becoming the hosts of the Clinical Congress of Surgeons of North America on this unique occasion, and one eloquent of opportunity for us all, the profession of Great Britain has enormously increased the indebtedness. We can best show it, for the nonce, by becoming their attentive and appreciative pupils and taking back to our brothers, who, unfortunately, cannot be with us, the many good things we have seen, and shall see, from masters in surgery. Recognising the occasion to be an unusual one, I am here to extend to the British profession the very cordial greetings and thanks of the American Medical Association." Dr. Rodman then outlined the activities of the American Medical Association, whose Council on Medical Education and Council on Public Health have worked so successfully for a high standard of scientific training among doctors and of sanitation among the people, both in peace and war.

The visit of members of the Congress to the Royal College of Surgeons of England was one of the things which impressed our visitors most. They were conducted over the largest and most complete pathological museum in the world by the President of the College, Sir W. Watson Cheyne; the late President, Sir Rickman Godlee; Professor Arthur Keith, curator; and Professor S. G. Shattock, pathological curator. The library also was visited, and this collection has claims which, without ranking quite as high as the Hunterian Museum, yet are very important. Professor Keith delivered a brief address to the visitors on the Nature of Peritoneal Adhesions, which we publish this week.

Before the discussion of the papers by the General Surgical Division on Thursday evening, July 30th, the President-elect, Dr. Charles H. Mayo, of Rochester, U.S.A., was introduced to the meeting, and briefly returned thanks for the honour done to him.

EVENING SESSIONS.

A.—GENERAL SURGICAL DIVISION.

THURSDAY, JULY 30TH.

The Non-operative Treatment of Cancer.

Professor KRÖNIG (Freiburg), who was to have read a paper on the Treatment of Uterine Cancer by X rays and by Radium, was unable to attend the Congress owing to his recall on account of the war in Eastern Europe. In his absence Dr. C. JEFF MILLER (New Orleans), who has paid a recent visit to Professor Krönig's clinic, narrated his impressions in a paper entitled "A Review of Professor Krönig's Work in the Non-operative Treatment of Carcinoma." One of the questions which he put to Professor Krönig was whether the latter is in favour of radiation treatment for early operable uterine tumours as well as for advanced cases. The reply was that at the present time operation has been given up entirely. The results of X ray treatment are regarded as superior to those of hysterectomy for fibroids, though in women under 40 myomectomy is undertaken when it is feasible. Treatment extends over three or four months, and must be repeated at several sittings. Malignancy, according to the Freiburg statistics, develops in only 1 per cent. of fibroids, and even when it does radiations will cure it. Contrary to the statements of Professor Bumm that deep-seated cancers cannot be influenced by X rays, Professor Krönig and Professor Aschoff are convinced that cases of unquestionable cancer of the stomach have been made to cicatrise, and that even when there have been secondary growths in the liver complete retrogression has been on occasion brought about. Radium and thorium in heroic doses are also very much employed in the Freiburg clinic, and special arrangements have been devised there for using these large doses without burning the patient's skin. Professor Krönig holds that high dosages of radium, strongly filtered, have great possibilities for malignant disease in deep organs. He believes in powerful radiations, carefully measured and properly controlled, administered over long periods. He uses these large quantities of radium and thorium from a greater distance than many other workers do; thus for carcinoma of the cervix he does not apply radium through the vagina, but only from outside the abdomen. He does not believe in the implantation of radium into actual growths. Dr. Miller confessed himself as much impressed by what he saw, but not by any means convinced that Professor Krönig is right. Nevertheless, he praised the latter's enthusiasm, and said that in course of time his work will yield definite conclusions.

Dr. J. F. PERCY (Galesburg, U.S.A.) read a paper illustrated by lantern slides of the special instruments which he uses in the treatment of cancer of the uterus by heat. The paper was published in THE LANCET last week (p. 309).

Professor T. WILSON (Birmingham) read a paper on Cancer of the Uterus, which also was published in THE LANCET last week (p. 318).

Dr. T. W. EDEN (London) directed the attention of the Congress to the fact that in the three papers read three separate lines of treatment were advocated for the same disease. As a critic he thought it his duty to warn against implicit faith in any of the three methods. An open mind should be preserved, though but for the consciousness of this necessity he would have felt inclined to reject at once the views of Dr. Percy. But he recognised that if the latter can prove his claims by statistics, properly and independently controlled, then in years to come everyone will do him honour. As regards the Freiburg treatments, Dr. Eden

distinguished between radium and X rays. The latter are admittedly useful; of the former he is much less certain. Professor Bumm said, only three weeks ago, that if an adequate effect is produced at a depth of 3 to 4 centimetres by radium, then the superficial tissues are so extensively destroyed that death may result; and the speaker commented on the wide discrepancy between this view and that held by Professor Krönig. But as regards X rays the position is different. Dr. Eden has no doubt that a very beneficial local effect can be thus obtained, even though the disease may at the same time be advancing in the deeper tissues. As to operation no better or more extensive operation is likely to be devised than that of Wertheim, yet Professor Wilson's curability rate of 10 per cent. cannot be regarded as satisfactory. The best promise of improvement is seen in X rays combined with operation; one method alone should not be relied on, but combinations of methods adopted. And it must also be remembered that when in advanced cases operation is out of the question the use of X rays will free the patient from many of her troublesome symptoms, even though it will not cure the disease.

Mr. W. E. MILES (London) has never treated cancer of the uterus with X rays or radium, and therefore confined himself to the question of surgical treatment. In order to carry out a radical operation it is necessary, not only to remove the organ in which the primary growth originates, but also the tissue through which spread has taken place and the tissue through which spread will take place if the disease is unchecked. In mapping out these zones of spread surgeons and pathologists coöperate,; and three such zones have been definitely determined in the case of cancer of the cervix. There is the downward spread into the vagina and the connective tissue on either side of it; in all radical operations as much of the vagina as possible should be removed. The lateral zone of spread is into the parametrium and mesometrium, which must in all cases be completely removed. The upward zone of spread is along the lymphatic paths. The statistics of the Cancer Hospital do not agree with those of Roger Williams, quoted in Professor Wilson's paper, to the effect that in 54 per cent. of cases of fatal uterine cancer there is no involvement of the pelvic glands. In such patients, dying from inoperable cancer at the Cancer Hospital, the interiliac glands are always affected, and they should always be removed when operating, whether they are obviously enlarged or not. If these glands at operation are found to be definitely infiltrated, then the common iliac glands should also be removed. The inner groups of the external iliac glands are also often involved, and sometimes the inguinal glands secondary to these. The lateral sacral glands, however, are never involved. Mr. Miles concluded by emphasising that the crux of the cancer problem is early diagnosis.

Dr. JOSEPH C. BLOODGOOD (Baltimore) said the preceding papers revealed truthfully the results of operations for fully developed cancer diagnosed clinically. But surgeons have been so overwhelmed with the details of technique of these extensive operations that they have not given enough consideration to the beginnings of cancer. Cancer practically always gives warnings to those in whom it develops, and therefore any campaign of education in the beginnings of cancer is justifiable, no matter what it costs. At the stage in which cancer ought to be treated the mortality should be practically *nil* in well-trained hands. The early preventive treatment of cancer is all-important, for cancer never begins in a healthy spot. Slides were then shown in illustration of these contentions, and also of cases in which after apparent cure of superficial cancer by X rays, radium, cauterisation, and curetting cancer cells were demonstrated under the healed epidermis.

FRIDAY, JULY 31ST.

Professor W. L. RODMAN (Philadelphia), President of the American Medical Association, opened a discussion on

Carcinoma of the Breast.

He devoted especial attention to the question of the diagnosis of malignant from benign growths and inflammatory conditions. Twenty years ago benign tumours were estimated to be only 9 per cent. of mammary neoplasms, owing to some faulty German statistics published by Gross. In these same statistics sarcoma was given undue prominence at that time, and its frequency was over-estimated. Dr. Bloodgood finds that at the Johns Hopkins Hospital sarcomata constitute only 1·5 per cent. of breast tumours; and they are, in fact, so rare as to be almost a negligible quantity. During the past ten years much more attention has been paid to chronic fibrous and glandular hyperplasia, the result of abnormal involution of the breast, which has often been mistaken for cancer. This condition is very common, especially about the menopause. Since the age of occurrence is so similar to that of cancer, it is important to differentiate the two lesions. Chronic fibrous hyperplasia is frequently bilateral, whereas only 2 per cent. of breast cancers are bilateral. Early cancer is not painful, whereas abnormal involution is always painful. The pain is exaggerated just before each menstrual period, and enlarged superficial veins are then seen over the breast. These are also seen in sarcoma, but not in carcinoma. 20 per cent. of cancer of the breast occurs between 20 and 40 years of age. Cancer, unlike benign neoplasms, soon becomes fixed by infiltration, though the amount of this fixation may be very slight at first and only to be detected by very careful examination. If there be atrophy of the superficial fascia, however small, or dimpling of the skin, however slight, the probability is that carcinoma is present unless chronic mastitis has previously existed. Comparison of the two breasts is of great importance in diagnosis, but retraction of the nipple has been given too much attention—it does not occur in 48 per cent. of all carcinomata of the breast, whereas it does occur in 5 per cent. of benign growths and more often still in abnormal involution. There is a difference, however, in that in cancer the nipple, as well as retracted, is infiltrated, fixed, and immobile, whereas in benign growths there is mobility and no fixation of the nipple. Volkmann's carcinomatosis of the breast is so like inflammatory conditions that five out of the seven cases which Professor Rodman has seen had already been operated on for abscess, and this usually happens; the diagnosis is not easy. This disease is not confined to pregnant women; it is more frequent in those who are not pregnant, and it often occurs in maiden women about the menopause. It is so rapidly fatal—in a few weeks to three months—that in Professor Rodman's view it should not be operated upon at all unless for palliative purposes or for psychical effects. The differentiation of benign from malignant cysts is even more difficult than in the case of solid tumours. Thick granular discharge from the nipple is strongly suggestive of carcinoma, and so are serous or sanguinolent discharges. The latter, however, may be seen in abnormal involution, even long before carcinomatous change has supervened, for this condition is very prone to undergo malignant degeneration. Pure blood from the nipple nearly always means papillary cystadenoma, which also is often subject to malignant change. In at least 25 per cent. of cases a skilled diagnostician may fail to make the right diagnosis clinically. There is a safe way to proceed—that of exploratory incision. Benign growths are convex on section, pink or pinkish-white in colour; malignant are usually concave, creak under the knife, and practically always have more or less of a grey tinge. Though the expert may be able with fair certainty to tell the benign from the malignant growth by inspection, the less experienced cannot do so; only frozen sections, examined at the time of operation, will save the operator from mistakes. Professor Rodman has employed this method for 20 years with only one case of error, and even in that case the error was discovered in time to save the patient by a second operation. In his experience the chance of mistake in the examination of a frozen fresh section is actually less than in that of fixed tissues. The paper concluded with a lantern slide demonstration of the author's operative technique.

During the reading of Professor Rodman's paper a woman suddenly rose in the body of the hall and began to make a suffrage speech. Only the first sentence, "I am a mouse," was audible; the rest was drowned by the protests of the audience. Efforts were made to persuade the woman to retire, but in vain. Finally, still speaking, she mounted a chair, from which she was then removed by a commissionaire, who carried her out of the hall.

Mr. W. SAMPSON HANDLEY (London) differed on one or two small points from Professor Rodman. Cancer of the breast is not always a fixed tumour, nor does the skin always dimple over it. He agreed with Professor Rodman as to the importance of frozen sections, but said that unfortunately pathologists as good as those with whom Professor Rodman works

are rare. A few years ago the embolic theory of cancerous dissemination was held. According to this supposition, the distribution of secondary foci is the result of chance. Yet the legs below the knee and the arms below the elbow are practically never affected by metastases from cancer of the breast. Secondary deposits are very rarely found at a greater distance than 24 inches from the primary growth. Mr. Handley's researches showed him that the embolic theory is true for the axillary glands, but that other metastatic deposits are due to permeation, which is the true method of growth and dissemination of cancer of the breast. The reason why permeation so long escaped observation is that it is at first a fugitive process. A lymphatic blocked by cancer cells soon becomes free again and only an almost imperceptible fibrosis remains. Permeation was then illustrated by a number of lantern slides showing microphotographs of the process.

Intestinal Stasis.

Sir BERKELEY MOYNIHAN (Leeds) opened a symposium on Intestinal Stasis. He asked, What is meant by intestinal stasis? It is asserted, first, that at definite points along the intestinal canal certain membranes, veils, or webs are frequently found; secondly, that because of these delay occurs in the passage of the intestinal contents, and that in consequence a process of intoxication takes place; thirdly, that by this intoxication some diseases are directly caused, and many others, even most others, are indirectly encouraged. Sir Berkeley Moynihan admits that these membranes are frequently present, as described. This is entirely beyond cavil. But the question of the origin and bearing of these bands can be disputed. Most of them he confidently believes are congenital. As long ago as 1899 he published an account of the dissection of a large number of fœtuses and infants in whom these membranes were found. Jackson's membrane is most commonly of congenital origin. But the bands found at the hepatic and splenic flexures of the colon are seldom congenital; about the origin of these he agrees with Sir Arbuthnot Lane. Sir Berkeley Moynihan was disposed to doubt if these bands were responsible for intestinal delay and obstruction, for the gut is generally not hypertrophied as it should be if some obstruction existed. Delay undoubtedly occurs in the typical case of intestinal intoxication, not from obstruction by the bands but from incapacity of the enfeebled intestine to empty itself. There is a type of individual recognisable at sight who can be said to be suffering from Lane's disease. After describing the type he said these are really cases for surgical treatment, though early cases can be helped very greatly by massage and paraffin. What operation should be selected? Ileo-sigmoidostomy results nearly always in regurgitation back along the colon to the cæcum. Anastomosis is of no use, for it is impossible to prevent this regurgitation. When these operations relieve symptoms, then intestinal stasis has not been the cause of the symptoms in those cases. In true intestinal stasis removal of part of the intestine should be practised. The lower end of the ileum, the cæcum, and the ascending colon are the parts which it is best to remove. If surgical treatment is to be adopted it is wiser not to do a short-circuiting operation, but to take out these parts only. What are the diseases which are affected by intestinal stasis? What are the relations of intestinal stasis to gastric and duodenal ulcer and cholelithiasis? Sir Berkeley Moynihan believed that the cause lies more often in the appendix, not in intestinal stasis. Therefore when surgical treatment is directed to these diseases the surgeon is exceeding his duty towards his patient if he deals with anything beyond the demonstrable lesions of the case. It is claimed that joint tuberculosis, rheumatoid arthritis, and many other diseases are often caused by intestinal stasis and cured by colectomy. Sir Berkeley Moynihan has seen cases of rheumatoid arthritis improved beyond the wildest expectation by operative abdominal measures. But it has to be remembered that drainage of an infected gall-bladder or removal of a diseased appendix will cure some cases of this disease; and it has to be remembered that most of these cases are not benefited by operative measures intended to prevent intestinal stasis. The same holds good of tuberculous joints. Some of the worst kinds of these cases show marvellous improvement after the whole of the surgical assault has been devoted to the intestinal canal. The causal relation is worthy of a wider trial and investigation, but more than that cannot yet be said. The enthusiasts, however, want us to travel with them much further than this. Almost all the diseases that afflict patients submitted to surgery, as well as many of those which are still for the present in charge of physicians, are regarded as amenable to surgery directed to the intestines. Sir Berkeley Moynihan was very strongly disinclined at present to accept the evidence so far put forward in support of these views, but was eager to examine all new evidence bearing on the subject. He believes the subject must be inquired into very carefully, for among much dross there is a nugget of pure gold.

Sir BERTRAND DAWSON (London) pointed out that the phrase "intestinal stasis" is being used in two different senses. One means the actual delay in the passage of the intestinal contents; the other as indicating the clinical picture of the results of such stasis. Now the routine use of bismuth meals shows that many persons have delayed ileal effluent without suffering from any symptoms attributable to it. The large intestines play the principal part in the production of the symptoms of intestinal stasis; and the best results of colectomy are seen when the large bowel is definitely diseased. It is important to put aside any bias against the colon, and not to get the habit of regarding it as a useless organ which is just as well removed as left. The indications must be definite before the operation is advised. Apart from the mortality of the operation of colectomy, which is not negligible, it is often followed by frequent actions of the bowels at irregular intervals. The intestines are also easily affected after colectomy by changes of temperature and by fatigue. These inconveniences are of little moment when the patient's entire outlook on life has been changed, but they are drawbacks which should not be ignored. The successes of the operation are very striking, but side by side with these there are great failures. This is not in itself a condemnation of the operation, but merely constitutes a plea for critical selection of cases, for the failures are not due to any faults of technique. If an appendix is removed, but the symptoms are not cured, at least no harm has been done to the patient. A gastro-enterostomy which is unsuccessful can be undone again. But a mistaken colectomy can never be undone, and a further reason for careful selection of cases is the fact that we do not yet know the full effects of colectomy on the future nutrition of the patient.

Professor J. C. BLOODGOOD (Baltimore) made an emphatic appeal for facts in the consideration of this subject. For example, in how many cases in which the appendix has been removed is there a failure to cure the patient's symptoms?—that is, in cases where it was doubtful whether the appendix had been the cause of those symptoms. Again, in how many cases of gall-bladder disease, acute or chronic, with or without gall-stones, is there a failure to cure symptoms by drainage of the gall-bladder, removal of the stones, or by removal of the gall-bladder? In the last 25 years 700 such cases have been treated in the Johns Hopkins Hospital, and so far only three of them have returned with symptoms referable to the colon. For the purpose of analysing their cases at the Johns Hopkins Hospital the cases of colon disease are divided into five groups. In one of these groups, in which clinically the symptoms have been those of intestinal stasis, the patients have been relieved by the proper treatment of naso-pharyngeal and sinus infections. In the second group abdominal operations have been performed. In Baltimore gastro-enterostomy is an operation which is not done if it can be avoided, but when it has been done the results have been uniformly good. The third group includes those in whom adhesions have been found, whether embryonic or acquired. The results of operations for division of the adhesions, though good, have not been so good as those in similar cases from operations of a different type. The fourth group includes the terminal cases, those now under discussion. Professor Bloodgood cannot convince himself that side-tracking is an operation of choice, though it may be one of necessity.

Sir W. ARBUTHNOT LANE (London) said that in view of the lateness of the hour he would not keep his audience more than a minute or two. He had nothing whatever to add to what he has said over and over again upon intestinal stasis. If his views were correct they must, he said, triumph; if not, they would perish. He was content to leave it to his audience to judge the result.

B.—SPECIAL SURGICAL DIVISION.

TUESDAY, JULY 28TH.

Congenital Obstruction of the Post-nasal Orifice.

Dr. CHARLES W. RICHARDSON (Washington, D.C.) said that the occurrence of this condition is described by many writers as a very infrequent form of nasal deformity, but that he had come to the conclusion that it was one of the most frequent types of congenital malformation in the nasal chambers. If many specialists of large experience had never seen a single case it was because so many of the infants speedily died with the condition unrecognised or wrongly classified as asphyxia neonatorum. The number of observed cases in children and adults had, he said, greatly increased during the last 20 years, but the number of cases in the newly born had not increased in the same proportion, the general practitioner and the obstetrician alike not having been sufficiently taken into the confidence of the rhinologist. He remarked that the form of deformity affected the female more frequently than the male, while the relative frequency of the bilateral to the unilateral form was in proportion of 3 to 1. Dr. Richardson continued with an elaborate description of congenital atresia, discussing the pathogenesis, the morphology, and the views of those authorities who have mentioned the subject.[1]

Dr. DUNDAS GRANT expressed the indebtedness of the meeting to Dr. Richardson for the interesting communication. The condition, he said, especially when bilateral, is a rare one; possibly it passes unobserved and the cases are included among those of asphyxia neonatorum as a whole. During ten years of considerable experience of midwifery he was convinced that he had never met with a case, but it is so serious when overlooked that the characteristics cannot be too well known. He read the following graphic account given by Dr. Ronaldson, an exceptionally gifted man and one of Lord Lister's earliest house surgeons in Edinburgh:—

> When the child was born I at once noticed that there was some peculiar obstruction to its breathing. On attempting to inspire the lungs were not inflated, while the under-lip and cheeks were sucked in. On slapping the buttocks to make the child cry there was no difficulty to free respiration when the mouth was opened. On keeping the mouth open by a spoon and pulling the tongue a little forward it breathed well and steadily and cried lustily. There was therefore, no obstruction to the respiration through the mouth and larynx. I accordingly proceeded to examine the nostrils, when I found that they were filled with a substance transiucent in appearance and glue-like in consistence, and which, on being taken hold of, could be pulled out *en masse*, like a piece of tough glue. It was evidently a collection of inspissated mucus. After clearing the nose of this mucus I attempted to blow air through the nares, but failed. Passing the forefinger of one hand to the back of the pharynx, with the pulp directed upwards, I tried carefully and repeatedly to pass a probe, bent at the end, along the floor of either nostril and through the posterior nares so as to touch the finger in the pharynx. I failed to do this, and came to the conclusion that there was some organic obstruction of the posterior nares. As, on watching the child, I observed that whenever it reached a point of moderate asphyxia it opened its mouth to cry, and thereby had an opportunity of inflating its lungs through the open mouth, I thought I might with safety take the case to avizandum before attempting to do anything for its relief. On returning next day I found, to my great disappointment, that the child had died an hour after my departure. I fortunately had an opportunity of making a post-mortem examination which, though imperfect, was sufficient to show that the posterior nares was completely occluded by a firm membrane. The firmness of this occluding membrane was such that an ordinary surgical probe could hardly be forced through it without bending on itself; indeed, it did so bend on itself before perforation was accomplished. After the probe perforated the membrane it passed freely into the pharynx. I did not discover any other abnormality. The nose, anterior nares, cavities of the nostrils, the hard and soft palate, were normal. The child was plump and well developed generally. (*Edinburgh Medical Journal*, 1881, p. 1035.)

"It is known," Dr. Dundas Grant continued, "that in some of the lower animals the vestibule of the larynx extends upwards in the form of a tube into the naso-pharynx, and that in the human infant the epiglottis is for some time after birth at least behind the soft palate. The late Dr. Robert Bowles relieved asphyxia by drawing up the epiglottis, and the late Dr. James Foulis invented a lever for depressing and drawing forward the base of the tongue in cases of threatened asphyxia, such as occurred in the apparently drowned or in advanced alcoholic intoxication. In unilateral cases the same dangers do not exist and the symptoms are not those of asphyxia but of nasal discharge which consists of mucus and lacrymal secretion. The appearance of this peculiar discharge has been variously described, but I have long taught my students that nasal discharge resembling 'laundress's starch' was an indication of complete posterior occlusion. In the adult it is not likely to be overlooked, but I have to confess to having once missed it in a young woman who was casually referred to me for removal of adenoids in a large out-patient department, when after such removal there was still a complete obstruction, which I found to be one of the class which we are now dealing with. In regard to treatment Dr. Richardson has indicated to us the necessity for enforcing mouth-breathing until the patient acquires it, as is usual in the course of some ten days. A small gag might be fixed between the gums, and no doubt a discreet attempt might be made to push a probe through the obstruction if happily it was purely membranous and yielded to moderate pressure, but any violent attempt with the risk of making false passages should in the new-born child be discouraged. Many of us have made use of very small post-nasal forceps, such as StClair Thomson's, for the diagnosis of adenoids in infants in whom the naso-pharynx is too small for the finger to be used, and a similarly shaped instrument might be thought of for opening the posterior nares. A perforation is readily made through whatever portion of the obstruction may be membranous, but as a rule there is a very thick layer of bone which can only be removed by judicious chiselling. The maintenance of the opening without the prolonged retention of a tube has been a problem, and the key to its solution was, I think, first given by Charters Symonds, who described that in such cases he removed a portion of the posterior part of the vomer. This principle has been further developed by Uffenorde as described by Richardson, but still further by von Eicken, whose process in the light of our familiarity with the submucous resection of the septum is likely to find favour. He performs complete submucous resection, removing the bone to its posterior margin and chiselling away the thickenings at the side of the septum and on the floor of the nose; he then replaces the muco-periosteum, punctures any fibrous septa that remain, and then cuts away with an instrument analogous to a conchotome working backwards the posterior part of the thin remaining membranous nasal septum. For those who are not familiar with intranasal surgery a perforation far back in the septum made from the sound side by means of a sharp spoon will meet many of the requirements of the case, so far at least as to enable the patient to blow the secretions out of the obstructed side. Reference has been made to the asymmetry of the face which ought to follow congenital occlusion of one choana. I can only say that when the late Mr. Cresswell Baber and I looked for the atrophy in our two cases we found that any trace of it which existed was on the wrong side. I can only hope that this work of Dr. Richardson will be carefully studied and properly appreciated by those who practise midwifery and who have the responsibility of meeting this condition when it occurs in the new-born child, the matter being then a question not merely one of nasal discharge but of the life or death of the little human being."

THURSDAY, JULY 30TH.

A symposium was held in the ballroom of the Savoy Hotel on

The Surgery of Cleft Palate,

when the subject was introduced by Dr. GEORGE I. V. BROWN (Milwaukee), who stated that all operations—and he enumerated the procedures in vogue—should be directed in three ways:—first, to covering the gap; secondly, to obtaining of speech; and thirdly, to improving general health. Therefore the warnings to the surgeon were: first, to do no correcting method where natural physiological development would obviate its need; secondly, to destroy nothing that might be wanted in such development; and thirdly, to do no more than was wanted at each step. He therefore condemned destruction of the premaxilla, and was critical of compression of the maxillæ. He considered that the operation should begin with closure of the lip as early as the first day, to be followed by closure of the hard palate, and lastly of the soft palate, completing the case at one and a half to two years. He approved of lateral incision to relieve tension where necessary. He showed slides of the "before" and "after" condition of the patients illustrative of remarkably good results.

Dr. JOSEPH R. EASTMAN (Indianapolis) followed with a paper which was published in THE LANCET of August 1st, p. 312

[1] We hope to publish the full paper later.

Dr. TRUMAN W. BROPHY (Chicago) began by insisting that the gap at birth was only potential; "the normal amount of tissue is there," he said, "and should be used immediately to close what is in effect a wound. What surgeon waits two years to close a wound?" He laid stress on the broadness of the upper jaw in these cases, whereas the normal upper jaw is narrower than the lower jaw. If left alone the tongue increases the cleft, and the upward pressure of the lower jaw does the same. The two sides should be brought together by compression, the necessary wiring being above the tissues and between the teeth. Lateral incisions were unnecessary, produced needless and troublesome scar-tissue, while blood and nerve supply were interfered with, and deafness might be caused by cicatrices in the neighbourhood of the Eustachian tube. By lead-plate compression and tension wiring perfect speech was produced, and he showed three patients on whom he had operated for different conditions and at different ages, the perfect results being illustrated by their delivery of recitations.

Sir W. ARBUTHNOT LANE said that he could only claim for his procedure perfect simplicity. Impressed with the danger many years ago of following a teaching that was so universally accepted as that of procrastination for four years, he decided to close the cleft in the lips and hard palates of infants at the earliest possible moment. In a month or so he closed the cleft in the soft palate. His procedure was based on restoring to the infant at the earliest possible opportunity the proper chances for development of the bones of the face.

Mr. JAMES BERRY (London) said the operation by median suture was the only one which restored the palate to its natural condition. If properly performed it gave the patient the best prospect of subsequent good speech. The age at which he preferred to operate was the earliest at which the cleft could be satisfactorily closed by median suture. The exact age depended largely upon the nature of the cleft. Narrow clefts, especially if limited to the soft palate, could be operated upon with advantage by this method within the first few months of life. The common, single or double, complete cleft associated with harelip should be treated by closure of the harelip in earliest infancy, the operation on the palate being postponed until the second or sometimes the third year. He had never advocated postponement of operation to any later period. At and soon after birth the cleft was usually very wide and the palatine arch low. If any median operation were attempted at this period it would usually fail unless preceded by the wiring operation of Brophy, which he thought too dangerous to be generally employed. The reason for postponing the palate operation for a year or two was that after suture of the hare lip the cleft in the palate underwent rapid spontaneous narrowing, and the development of the alveoli made the arch higher. In proof of this he showed photographs[1] of three similar cases of complete single cleft palate. One showed the usual very wide cleft as seen at birth. Next was an exactly similar case in which after suture of the harelip and then a delay of two years, the cleft had become so much narrower that he had easily closed it by median suture with excellent result. The third case of the same kind showed a still greater degree of spontaneous closure. The patient was not seen by the speaker until she was 10 years old and had been left unnecessarily long without operation. He entirely agreed with Sir Arbuthnot Lane as to the "simplicity" of his turnover flap operation, and also with the statement that most mothers of cleft palate babies (and often their doctors) were exceedingly anxious that operation should be performed as early as possible. This was but natural and accounted largely for the frequency with which such operations were performed at the present day, especially by many who do not follow up their cases and ascertain the actual results as regards subsequent speech. Sir Arbuthnot Lane, so far as he knew, had never brought forward any proof that the ultimate results of such turnover operations were really good. At a demonstration of post-operative cleft palate cases arranged by the Royal Society of Medicine a few years ago[2] with the object of comparing the results of the various operations, Sir Arbuthnot Lane produced but one patient who unfortunately was too young to speak. He himself, Mr. R. W. Murray, and others had on the same occasion shown large numbers of patients successfully operated upon by the Langenbeck operation. He thought that exact information as to the subsequent results of their operations should be brought forward by the advocates of the turnover flap operation in early infancy. Why did they not publish long series of consecutive cases giving actual after-results, as Mr. Berry himself had done more than once with regard to his own operations? With regard to lateral incisions, he employed them much less than formerly, as he found that the wide mattress stitch in the soft palate, similar to that employed by Brophy for this part, often rendered them unnecessary. The most difficult cleft to close satisfactorily was that in which the lip and alveolus were unaffected, but in which a very wide cleft involved all the rest of the palate and had a rounded anterior end. In such cases he thought it best, as a rule, to close the soft palate at some period during the early part of the second year, and, if necessary, to postpone operation upon the hard palate for some months, at the end of which the opening would be found much narrower. In conclusion, he showed three patients after operation for the three principal varieties of cleft that he had described, and demonstrated the satisfactory nature of their speech by making them pronounce various difficult words suggested by the audience.

Mr. PERCY LEGG (London) closed an interesting debate by asking the audience to remember that while to secure good speech was the great aim of all procedures, speech could only become good by careful education.

[1] For these see Brit. Med. Jour., Oct. 28th, 1911.
[2] THE LANCET, vol. i., 1911, pp. 1251, 1406, 1607.

FRIDAY, JULY 31ST.

Mr. WALTER JESSOP presided over an interesting meeting of ophthalmologists, at which Lieutenant-Colonel R. H. ELLIOT, I.M.S., Mr. F. RICHARDSON CROSS (Bristol), and Mr. J. B. STORY (Dublin) made valuable contributions. Colonel ELLIOTT'S paper on the Sclero-Corneal Trephining Operation for Glaucoma was discussed by Mr. TREACHER COLLINS; Mr. BISHOP HARMAN replied to Mr. Cross's conclusions on the Operative Procedure for Strabismus; and Mr. HOLMES SPICER answered Mr. Story, who dealt with Operations for Senile Cataract. The meeting was incommoded by the loss of the Savoy ball-room on the last evening of the Congress.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on July 30th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen were admitted Members of the College, having passed the necessary examination:—Adolphe Abrahams, M.D. Cantab., L.R.C.P.; Cuthbert Delaval Shafto Agassiz, M.D. Aberd.; Harold Wordsworth Barber, M.B Cantab.; Frederick Charles Davies, M.B. Cantab., L.R.C.P.; Arthur Geoffrey Evans, M.B. Cantab., L.R.C.P.; Herbert Thomas Evans, M.B. Oxon.; Thomas Lionel Hardy, M.B. Cantab., L.R.C.P.; Sohrab Shapoorji Vazifdar, L.R.C.P.; and Henry Owen West, M.D. Lond.

Licences to practise physic were granted to 97 gentlemen who had passed the required examination.

Diplomas in Public Health were granted in conjunction with the Royal College of Surgeons of England to 39 gentlemen who had satisfied the examiners.

The Murchison Memorial Scholarship was awarded to Charles Jennings Marshall, M.B. Lond., of Charing Cross Hospital.

The following gentlemen were elected to the undermentioned offices:—Censors: Dr. Percy Kidd, Dr. Howard Henry Tooth, C.M.G., Dr. Theodore Dyke Acland, and Sir Wilmot Parker Herringham. Treasurer: Sir Dyce Duckworth, Bart. Emeritus Registrar: Dr. Edward Liveing. Registrar: Dr. Joseph Arderne Ormerod. Harveian Librarian: Dr. Norman Moore. Library Committee: Dr. Cyril Ogle, Dr. Leonard George Guthrie, Dr. Herbert Morley Fletcher, and Dr. Thomas H. Arnold Chaplin. Curators of the Museum: Dr. John Mitchell Bruce, Dr. Seymour John Sharkey, Dr. Frederick William Andrewes, and Dr. William Hunter. Finance Committee: Dr. Donald W. C. Hood, C.V.O., Sir James Reid, Bart., G.C.V.O., K.C.B., and Dr. James Taylor.

The PRESIDENT reported that the Bissett-Hawkins Memorial Medal had been awarded to Sir Ronald Ross, K.C.B., for his distinguished work in connexion with malaria, and that the Gilbert Blane Medal had been awarded to Surgeon Gilbert F. Symes under the new regulations. The President also announced that he had nominated Dr. R. Percy Smith and Dr. F. W. Mott to the Board of Studies in Connexion with Mental Diseases.

The gift of a china tea-service was received from Dr. Frank Shufflebotham, Milroy Lecturer for this year, and the thanks of the College were directed to be sent to him.

A report was received from the Censors' Board upon a communication dated May 4th last, received at last College from an Interdepartmental Committee of the Foreign Office, in which an opinion was requested concerning restrictions in the sale of opium and other narcotics. This was referred to the Censors' Board for a further report.

The REGISTRAR moved for the first time the following temporary by-law:—

That Dr. Robert McCarrison, being resident in India, be admitted to the Fellowship of the College, any by-law to the contrary notwithstanding.

This was passed.

Sir WILLIAM CHURCH was re-elected a member of the executive committee of the Imperial Cancer Research Fund upon the nomination of that committee.

Reports were received from the representative of the College on the General Medical Council, from the committee of management, the College finance committee, the library committee, and the curators of the museum.

After some further formal business the PRESIDENT dissolved the Comitia.

ROYAL COMMISSION ON VENEREAL DISEASES.

GIVING evidence before the Royal Commission on Venereal Diseases, Mr. Edward Smallwood, J.P., L.C.C., chairman of the directors of the Alliance of Honour, said that this organisation was an association of men who pledged themselves to the object of purity. The alliance had been in existence about 11 years, and had now some 500 branches in different parts of the country and a membership of 42,000, which was steadily growing. He believed that by inculcating principles of purity and chivalry and by the work of moral education the alliance was attacking a great social evil with its attendant diseases at the source. Mr. Smallwood said that his experience showed that ignorance was one great cause of persons contracting venereal diseases. The alliance was endeavouring to combat this ignorance by means of lectures and public meetings and by the dissemination of literature; the two branches of instruction, moral education and instruction in the actual physical dangers, were kept side by side. Official action was, however, extremely desirable on the subject of education. Instruction should be given to the young in schools and colleges on a properly graduated plan, and it would be necessary that carefully selected teachers should receive special training, which would enable them to impart this particular kind of instruction.

Mr. P. Macleod Yearsley, senior surgeon to the Royal Ear Hospital, stated that in his opinion syphilis with its concomitants was as severe amongst children of the poor as it was when he started practice as an aural surgeon 21 years ago. He had found that amongst children there were far more cases of manifesting congenital syphilis among the poor than among the better class; this he attributed to the fact that in the latter the disease was recognised earlier and therefore treated earlier. Among the poor syphilis very often went untreated, and this was specially the case with children. As showing the number of children with congenital syphilitic deafness appearing after birth with sufficient severity to necessitate special education, he referred to records he had kept in connexion with work at special deaf schools. Of the 845 children (427 boys and 418 girls) examined during a period of seven years, 61, or 7·21 per cent., were deaf from congenital syphilis; the females affected were greatly in excess of the males, the relative percentages being, boys 4·94, girls 9·56. Mr. Yearsley stated that the treatment of acquired syphilitic deafness nearly always failed. It had been pointed out that the children who became blind and deaf were those in whom syphilis went untreated in infancy. It was therefore important that treatment should be obtained as soon after birth as possible. The widest possible routine application should be made of methods of diagnosis, and the Wassermann reaction should occupy a prominent place. Advantage should especially be taken of school inspection for the purpose of applying the reaction in all suspected cases, not only of the school children themselves, but of the parents. All cases should be thoroughly treated as early as possible. Mr. Yearsley stated that the National Bureau for Promoting the General Welfare of the Deaf, whose representative he was, in its provisions for promoting the prevention of deafness, had the notification of all cases of congenital syphilis and facilitation of treatment for mother and child.

Dr. James Galloway, senior physician to the Charing Cross Hospital, stated that recent experience gained in dealing with venereal diseases in the army and navy greatly encouraged the expectation that these diseases might, if favourable conditions were obtained, be prevented, and their evil consequences diminished in the general population. He did not think, however, that compulsory measures involving registration and treatment were likely to lead to satisfactory results. In dealing with the general community it was necessary that all efforts to cure and eradicate these diseases should be reinforced by the willing consent of the sufferers and by the sympathetic coöperation of the rest of the community. Social slur or stigma should so far as possible be removed from those under treatment. It should be strongly impressed upon the public that large numbers of persons suffered from venereal disease through no fault of their own. Facilities for efficient treatment should be provided for all classes of the community and for both sexes. It was more important from the point of view of the public health that poor and ill-educated patients should be successfully dealt with than those in better circumstances and presumably greater intelligence. In the case of the poorer patients these diseases (even when recognised) were often looked upon as matters of comparatively little importance. All hospitals willing to undertake the treatment of venereal diseases in their early or acute stages should be encouraged to do so. If this were done facilities would immediately be at hand for the greater number of patients. It was especially desirable that hospitals with medical schools should undertake the treatment of these diseases in any general scheme of dealing with these maladies throughout the community. Opportunity would thus be provided for the instruction of medical students in the recognition and treatment of veneral diseases in a way which had been impossible in the past. Dr. Galloway thought that the cost involved in the treatment of these diseases on a large scale would be considerable, and as the proper treatment and eradication of the diseases was a matter affecting the general health of the whole community it was proper that the expense should be met by local authorities or by the State.

Mr. Pugin Meldon, senior surgeon to the Westmorland Lock Hospital, Dublin, gave evidence before the Commission as the representative of a joint committee appointed by the Royal College of Physicians of Ireland, the Apothecaries Hall, Ireland, the School of Medicine at Trinity College, Dublin, and the National University of Ireland. The committee laid stress on the point that the difficulty in dealing with venereal diseases arose from the social stigma attaching to those suffering from them. This stigma was certainly a hindrance to early diagnosis and treatment, and this being so it was not desirable to establish for the treatment of the general class of venereal disease patients special dispensaries and hospitals or special laboratories for diagnosis. As regards diagnosis, it was essential that clinical methods should be supplemented by the aid of the pathological laboratory, and arrangements should be made for the free diagnosis of venereal disease at the laboratories in the pathological departments of the universities and medical schools. With regard to treatment, the committee were of opinion that one cause which operated very extensively in deterring people from obtaining proper treatment was the penalisation of venereal disease. Employers of all kinds were in the habit of either dismissing from their employment persons who were found to be suffering from these diseases or refusing

them leave for the purpose of treatment. The result was that these persons either endeavoured to treat themselves or resorted to advertising quacks, and only sought a physician when the disease was so far advanced that they were unable to do their work. So long as this penalisation persisted it was impossible seriously to suggest any scheme of notification and therefore any really effective method of prevention. Similar considerations led the committee to suggest that the Insurance Act should be amended so as to make it impossible to withhold sick pay and disablement pay in cases of venereal disease. The committee referred to the fact that some general hospitals have rules precluding the admission of venereal patients, and they suggested that pressure should be put upon such hospitals to have these rules rescinded.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on July 30th, Sir WILLIAM WATSON CHEYNE, the President, being in the chair.

It was resolved to grant Diplomas of Membership to 95 successful candidates.

It was resolved that the Universities of Bristol and Wales and the Imperial University of Japan should be added to the list of universities whose graduates in medicine and surgery may present themselves for examination for the Fellowship without first becoming members of the College.

It was resolved to grant jointly with the Royal College of Physicians of London Diplomas in Public Health to 39 successful candidates.

Sir William S. Church, Bart., K.C.B., was re-elected a member of the executive committee of the Imperial Cancer Research Fund.

The PRESIDENT reported that in accordance with the result of the examinations for promotion to the rank of staff surgeon held in January and June of this year, the Sir Gilbert Blane Medal had been awarded to Surgeon Gilbert Francis Syms, R.N.

The PRESIDENT reported that he had been invited by the provisional committee appointed at the Conference on District Nursing in London held at the offices of the Local Government Board on June 12th, 1914, to nominate a representative to serve on a central council for London, which was now being established, and that he had accordingly nominated Sir Alfred Pearce Gould, K.C.V.O., who had consented to serve.

THE SERVICES.

TO CIVILIAN SURGEONS.

SURGEONS for temporary service in the Royal Navy are required; pay 22*s.* a day, plus allowances and equipment allowance for uniform; age not to exceed 40 years. Application should be made to the Director-General, Medical Department of the Navy, Admiralty, S.W.

The War Office notifies that civilian medical practitioners desiring to serve at home or abroad as surgeons with the army should communicate with the Secretary, War Office. Gentlemen accepted for such services will be granted the temporary rank of Lieutenant in the army, and must fulfil the following conditions: 1. They must be registered practitioners. 2. They must engage for a period of 12 calendar months or until their services are no longer required, whichever shall first happen. 3. Their pay to be 24*s.* a day, inclusive of all money allowances, except travelling allowances and expenses when travelling on duty. 4. They will be granted free passages to and from any country abroad to which they may be sent. 5. They must devote their whole time to military service. 6. They will receive a gratuity of £60 at the termination of their engagement if they have rendered satisfactory service. 7. They should not exceed 35 years of age, but in exceptional circumstances gentlemen between 35 and 40 may be accepted. 8. They must furnish: (*a*) A medical certificate showing that they are in good health, of sound constitution, and fit for hard physical work. (*b*) A statement of any previous service with the army. (*c*) A recommendation as to character from a person of position and responsibility. (*d*) A certificate as to age.

ARMY MEDICAL SERVICE.

Colonel Richard H. S. Sawyer, on completion of four years in his rank, is placed on the half-pay list (dated August 3rd, 1914).

Lieutenant-Colonel James Meek, from the Royal Army Medical Corps, to be Colonel, vice R. H. S. Sawyer (dated August 3rd, 1914).

ROYAL ARMY MEDICAL CORPS.

Major Claude B. Martin to be Lieutenant-Colonel and to be Supernumerary (dated August 3rd, 1914). Major Charles B. Lawson to be Lieutenant-Colonel (dated August 3rd, 1914.)

INDIAN MEDICAL SERVICE.

The King has approved the promotion of Captain Norman Walter Mackworth to be Major (dated Jan. 26th, 1914).

The King has also approved the retirement of the undermentioned: Lieutenant-Colonel Joseph George Hulbert (dated July 27th, 1914); Major William Elmsley Scott-Moncrieff (dated July 28th, 1914).

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—The death is announced of Dr. E. J. H. Garstin, medical officer, Nigeria. Dr. J. W. S. Macfie, medical officer, Nigeria, has been transferred to the Gold Coast. Mr. A. C. Parsons, medical officer, Nigeria, has been promoted to be a Sanitary Officer, Nigeria; and Mr. W. J. D. Inness, medical officer, Nigeria, to be a Sanitary Officer, Nigeria. The following gentlemen have been selected for appointment to the staff: Dr. T. P. Fraser, Nigeria; Mr. A. S. Burgess, Gold Coast; Mr. E. Gibson, Nigeria; Mr. C. J. B. Pasley, Nigeria; Dr. T. Ryan, Gambia; Dr. C. Mackey, Nigeria; and Mr. J. M. O'Connell, Sierra Leone.

Other Colonies and Protectorates.—Dr. A. L. Fitzmaurice has been selected for appointment as a Medical Officer, Somaliland; Dr. E. H. Black has been selected for appointment as a Medical Officer in the Federated Malay States; and Dr. P. W. H. Burne has been selected for appointment as a Medical Officer in the Straits Settlements.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Notts and Derby Mounted Brigade Field Ambulance: Herbert Smith Wallace to be Lieutenant (dated June 27th, 1914).

2nd Lowland Field Ambulance: Lieutenant Dugald H. MacPhail to be Captain (dated July 4th, 1914).

3rd Northumbrian Field Ambulance: Captain Stanley Fox Linton, from the List of Officers Attached to Units other than Medical Units, to be Captain (dated May 26th, 1914).

ROYAL ARMY MEDICAL CORPS EXAMINATIONS.

The following is a list of successful candidates for commissions in the Royal Army Medical Corps at the competition held in London last month, for which 22 candidates entered:—

	Marks.
*D. C. G. Ballingall, B.A., M.B. Cantab., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital	560
H. G. Winter, M.R.C.S., L.R.C.P., London Hospital	552
*J. M. Evatt, B.A. Cantab., M.R.C.S., L.R.C.P., University College Hospital	546
*F. G. Thatcher, M.B., Ch.B., Edinburgh University	538
*W. P. Mulligan, M.B., Ch.B., Aberdeen University	534
*G. P. Selby, B.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital	525
J. G. Butt, B.A., M.B., B.Ch., B.A.O., Dublin University	507
*N. Cantlie, M.B., Ch.B. Aberd., Charing Cross Hospital	497
*E. A. P. Brook, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital	489
*P. T. Priestley, M.B., Ch.B., M.R.C.S., L.R.C.P., University of Birmingham	479
E. Phillips, M.B., B.Ch. Durh., M.R.C.S., L.R.C.P., London Hospital	476
S. D. Reid, M.B., Ch.B., University of Edinburgh	453
P. J. Ryan, B.A., M.B., Ch.B., B.A.O., National University, Ireland	441
B. J. L. Fayle, B.A. Cantab., M.R.C.S., L.R.C.P., Bristol University	437
E. A. Sutton, M.R.C.S., L.R.C.P., Charing Cross Hospital	402

* These gentlemen, being in possession of certificates obtained in the Officers Training Corps, were awarded service marks under paragraph 71 of the Regulations for the Officers Training Corps.

INDIAN MEDICAL SERVICE EXAMINATION.

The competitive examination for commissions in His Majesty's Indian Medical Service was held on July 27th, 28th, 29th, 30th, 31st, and August 1st, when 28 candidates presented themselves. Sixteen candidates qualified and one failed to qualify. The following is a list of the candidates who secured the 13 vacancies which were to be competed for, with their medical schools, qualifications, and marks obtained out of an aggregate of 5100.

	Marks.
John Walter Pigeon, B.C. Cantab., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital	3304
Maurice Lawrence Treston, L.R.C.P., M.R.C.S., London Hospital	3173
Peter Vieyra, M.B., Ch.B. Edin., Edinburgh University ...	3141
Bhamini Mohon Mitra, L.R.C.P., M.R.C.S., Middlesex Hospital	3101
Philip Savage, L.R.C.P., M.R.C.S., Guy's Hospital and Durham University	3071
Thomas Bond Paul, L.M.S.S.A., Middlesex Hospital	3049
Amir Chand, M.B., B.S. Punjab, Lahore Medical College ...	3046
Robert Lee, M.B., Ch.B. Liverp., Liverpool University ...	3040
Nilkanth Shiram Jatar, L.M.S. Bombay, L.R.C.P., M.R.C.S., Grant Medical College, Bombay, and University College Hospital	2972
Tadepally Sankara Sastry, M.B., C.M. Madras, Madras University and Middlesex Hospital	2891
Jamal-ud-din, M.B., Ch.B. Edin., Edinburgh University ...	2810
Ferozeshah Bapuji Chenoy, L.M.S. Bombay, L.R.C.P., M.R.C.S., Bombay University and London Hospital...	2709
Sadanala Bashiam Venugopal, L.M.S. Madras, L.R.C.P., M.R.C.S., Madras University and Guy's Hospital	2697

THE BACTERIOLOGICAL DEPARTMENT OF INDIA.

The cadre of the Bacteriological Department of India has been recently increased. Amongst Indian Medical Service officers who have been confirmed in the department is Captain H. W. Acton, the director of the Pasteur Institute at Kasauli, and also amongst those who have been appointed *sub pro tem.* the name of Captain R. Knowles, assistant director of the above institute.

BOMBAY HOSPITAL STAFFS.

The Surgeon-General with the Government of Bombay has recommended that the present consulting staffs of the Bombay hospitals should continue for the next year. These staffs are:—*St. George's Hospital.*—Consulting Physicians: Lieutenant-Colonel A. Street, Dr. J. W. Field, Dr. S. A. Powell. Consulting Surgeon: Lieutenant-Colonel A. Street, I.M.S. Consulting Obstetric Physician: Lieutenant-Colonel S. C. Evans, I.M.S. Consulting Ophthalmic Surgeon: Major G. McPherson, I.M.S. Consulting Bacteriologist: Major W. Glen Liston, I.M.S. Consulting Alienist: Lieutenant-Colonel S. H. Burnett, I.M.S. *J. J. and Allied Hospitals.*—Consulting Physician: Lieutenant-Colonel T. Jackson, I.M.S. Consulting Surgeon: Lieutenant-Colonel J. G. Hojel, I.M.S. Consulting Obstetric Physician: Dr. Annette M. Benson. Consulting Bacteriologist: Major W. Glen Liston, I.M.S. Consulting Alienist: Lieutenant-Colonel S. H. Burnett, I.M.S. *Goculdas Tejpal Hospital.*—Consulting Physicians: Lieutenant-Colonel T. Jackson, I.M.S., and Dr. R. Row. Consulting Surgeon: Lieutenant-Colonel A. Street, I.M.S. Consulting Obstetric Physician: Lieutenant-Colonel S. C. Evans, I.M.S. Consulting Ophthalmic Surgeon: Major G. McPherson, I.M.S. Consulting Bacteriologists: Major W. Glen Liston, I.M.S., and Dr. N. F. Surveyor. Consulting Alienist: Lieutenant-Colonel S. H. Burnett, I.M.S. *Cama and Albless Hospitals.*—Consulting Physician: Lieutenant-Colonel L. F. Childe, I.M.S. Consulting Surgeons: Lieutenant-Colonel A. Street, I.M.S., and Dr. H. M. Masina. Consulting Obstetric Physicians: Lieutenant-Colonel S. C. Evans, I.M.S., and Sir Temulji Bhikaji Nariman. Consulting Ophthalmic Surgeon: Major G. McPherson, I.M.S. Consulting Bacteriologist: Major W. Glen Liston, I.M.S. Consulting Alienist: Lieutenant-Colonel S. H. Burnett, I.M.S.

An Order in Council prohibits the exportation of surgical bandages and dressings from the United Kingdom.

The Royal Colleges of Physicians and Surgeons have awarded the Sir Gilbert Blane naval medal to Surgeon Gilbert Francis Syms, R.N., who obtained the highest aggregate marks at the examination for promotion to the rank of staff-surgeon at the Medical School of the Royal Naval College, Greenwich.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The following scholarships have been awarded:—Science scholarship, £150, Cyril James Thomas. St. Thomas's Hospital Medical School. Science scholarship, £60, divided between Stanley Roy Tattersall and Frank Alfred Gaydon, both of St. Thomas's Hospital. Arts scholarships won by B. O. Dewes and R. N. Legge Symes (first year's tuition fees, £15 15*s.*).

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

VIENNA.

Nervous Disturbances of Respiration.

IN a paper read before the Society of Neurology in Vienna, Dr. Hofbauer explained the results of investigations which he had made into the nature of respiratory disturbances due to nervous conditions. He said that they appeared in organic, autotoxic, or functional alterations of the nervous system. Cerebral hæmorrhage caused only a difference between the right side and the left side as regards respiratory movement of the thorax, but Cheyne-Stokes breathing rarely. Respiratory stoppages sometimes occurred as symptoms of alteration of the posterior parts of the cerebral cortex. Abscess of the brain often produced retardation of the respiration; tumour, cyst, or abscess of the cerebellum often caused Cheyne-Stokes symptoms and stoppage of respiration, whilst circulation continued to go on. Meningitis might cause irregularities of breathing, Cheyne-Stokes and Biot's type of respiration, and increase of frequency. Tabes dorsalis caused lengthening of inspiration due to paralysis of the abductors of the glottis. Paralysis of the peripheral nerves caused disturbances of the muscular movements of the chest wall, whilst inflammation of the sensory nerves produced lengthening and shallowing of the type of breathing owing to the pain. The autotoxic disturbances were seen in Graves's disease, and in uræmia, diabetes, and uncompensated heart troubles. The character of breathing approached the Cheyne-Stokes type, but acute dilatation of the lungs was also often noted. In hysterical conditions or in attacks of fear the respiration might become either very quick and shallow or very deep and noisy. Interesting experiments on the action of the depressor nerve were made by Dr. H. Hofbauer on animals whose abdominal aorta had been severed after having been previously clamped with Dr. Velden's deep clamp. The experiments showed that rapid loss of blood caused sudden stoppage of the breathing, followed by very deep single respirations, just after irritation of the depressor nerve.

A Dangerous Admixture with Commercial Digitalis Leaves.

A few days ago several druggists in this city noticed that some infusion of digitalis became turbid when mixed with alcohol of 5 per cent. strength in accordance with the official regulations. The University laboratories were at once communicated with, and a careful examination showed that the digitalis leaves were mixed with fragments of other leaves, which under the microscope were recognised as those of hyoscyamus. They were present in the proportion of about one half, and formed, of course, a most dangerous addition. The wholesale dealer from whom the retailers had obtained their supply was soon found, and all the samples sold since the time when the admixture was supposed to have taken place were seized. It is interesting to note that no reports of any harmful action of the mixed infusion in question have been received. At least mydriatic manifestations might have been noticed, apart from any cardiac effect, for in the usual dose of 1 gramme

of digitalis leaves, as it is prescribed here, at least 1 milligramme (1/60th of a grain) of hyoscyamin, which is much stronger than atropin, must have been present.

Restriction of the Number of First-year Medical Students.

On account of the overcrowding in the medical faculty of the University of Vienna the Ministry of Education has issued an order regulating the matriculation of first-year students of medicine. In accordance with this order, a reference to which was made in one of my previous letters, only 400 students will be admitted to the first term of matriculation during the academical year 1914–15. Students born in Vienna or in Austrian countries not possessing a medical school have a prior claim to admission. First-year students from the other Austrian countries and foreigners will be allowed to matriculate only in the event of there being fewer than 400 applicants belonging to the first-mentioned category. Students of other faculties will no longer be allowed to work in the anatomical dissecting-rooms, as they have frequently done in the past.

July 30th.

PARIS.

The War.

THE shadow of impending war is over all things, but the temper of the people is satisfactory. The crowds rushing back from the Continent to England or America have complicated our domestic troubles.

Proposed New Hospitals for Paris.

With the constant increase of the population of Paris, notwithstanding the recent construction of hospitals, the number of sick poor that can be accommodated is entirely inadequate. Since the expulsion of the religious orders there remain for such accommodation hardly any other than the hospitals of the official administration. M. Mesureur, Director-General of the Assistance Publique at Paris, is asking the municipal council of Paris to construct in the north-west district of Paris two hospitals—one municipal, the other departmental—each to contain from 800 to 1000 beds. The expense of the first hospital would be covered by the sale of the grounds of the Hôpital Beaujon, which, in consequence of the development of the city, is now situated in a district where land has attained a very high value. The cost of the second hospital would be met by a future loan of the Department of the Seine. The Conseil de Surveillance of the Assistance Publique on Nov. 20th last gave its adhesion to this programme; the Conseil Municipal, when called on to give effect to it, will undoubtedly approve the plan. But already some municipal councillors think that these two hospitals will be insufficient, especially as one of them will only replace an already existing hospital. The departmental hospital, which is the only new creation, will not suffice for the increased needs of the huge amalgamated district, comprising the towns of Neuilly, Levallois, Clichy, St. Ouen, Asnières, Bois-Colombes, Courbevoie, and Nanterre, which are now dependent on the Hôpital Beaujon, and for those of Pantin, Aubervilliers, and St. Denis, which at present rely on the Hôpital Lariboisière. There is, in fact, a population of 500,000, mostly of the indigent sort, to be served by the new hospital with its 1000 beds. The Conseil Municipal contemplates a similar operation for the southern district. This district contains a hospital constructed 30 years ago as a provisional affair during a cholera epidemic. It was built in two and a half months and of light material. Since then the needs of the district have become so great that this hospital has continued in existence, and receives a large number of sick. It is absolutely necessary now to reconstruct and enlarge it. It is further necessary for the communes of the southern section of the Department of the Seine to do what is about to be done for the northern part, and to construct a departmental hospital for its sick, so as to unload the city hospitals, the Necker, the Boucicaut, the Cochin, the Pitié, the St. Antoine, and the Tenon, which are largely occupied by patients from these communes.

Familiarity in the Hospital Services.

M. Mesureur, Director-General of the Assistance Publique, has addressed a circular to the directors of the various hospitals calling on them to forbid the *tutoiement* too frequently practised by medical students and by nurses. He considers that this behaviour, though inspired doubtless by a fraternal and well-meaning friendliness, may grate upon certain patients who, in their unhappy condition, are entitled to have their feelings respected.

The Cerebro-spinal Fluid in General Paralysis.

M. Marinesco and M. J. Minea have made some interesting attempts at transmission to rabbits of the virulent properties of the cerebro-spinal fluid freshly taken from subjects of general paralysis. These observers have obtained positive results in a case of juvenile general paralysis, which is said to be the first example of its kind. The experiments conducted on many series of rabbits, which have shown all the characteristic accidents after inoculation with this cerebro-spinal fluid, not only demonstrate the existence of living spirilla in the cerebro-spinal fluid of paralytics and their virulence, but also prove that even juvenile general paralysis, due to hereditary lues, constitutes an active spirillosis.

The Avoidance of Premature Burial.

Dr. Icard, of Marseilles, has already devised many procedures to establish the fact of death and to obviate premature burial. The best known, which has been honoured by the Académie de Médecine, consists in the hypodermic injection of fluorescine, which induces a yellow colouration of the eyeball in a few minutes if the person is not really dead. Another and more recent method consists in pinching forcibly with a forcipressure forceps a thin piece of the skin, such as the thickness of the lips or the cheek. An absolute parchment-like effect is thus produced, which, in the case of the dead, persists indefinitely, but as long as life remains the tissues recover little by little their thickness and suppleness. This simple experiment may be made with any kind of pincers; but Professor Vincent has shown to the academy, on behalf of Dr. Lucien Graux, a special forceps called a "thanatograph," which makes the process more simple and more easily demonstrated. It might be thought desirable that a death certificate should be required to be accompanied always by one of these tests, which add but little to the trouble, while affording a very useful corroboration.

August 4th.

UNITED STATES OF AMERICA.

Bubonic Plague in New Orleans.

Two cases of bubonic plague have been reported from New Orleans. The news raised no great interest; in fact, hardly any. It is an odd paradox that people are moved so little nowadays by the things that once concerned them so deeply. Formerly a single case of plague would have touched the public imagination even to panic. At present they appear apathetic, at least indifferent, about the "black death." Certainly, as regards such a formidable disease, this lack of interest is creditable to the medical profession. The public take for granted that the disease will be controlled, and they are right. In this case the plague, which probably came from some far-distant point, has had no other outbreak. The most popularly interesting question arising from the plague's presence is the necessity of destroying its carrier, the rat. In this outcry even the State is taking a part.

Low Death-rate in New York.

Whatever be the explanation, the death-rate in New York has fallen to the lowest point ever known—an annual rate of 10·84 per 1000. During the same period last year—that is, during the week ended July 4th—the death-rate was 40·82. The cool weather this year stands out among other circumstances as the cause of the lower rate. It is true that New York is one of the healthiest cities; it is equally true that disease does not seem to leave its heaviest mark on large collections of men.

Health of Country and City Children Contrasted.

A committee of the American Medical Association has issued a report contrasting the health of country and city children. The gist of it is that city children are the healthier. The committee's point is that they found incomparably more disease —of the heart, lungs, and nervous system—among the offspring of what are called the rural population. The city as a health resort is an extreme form of putting the case, but in a general way the committee's report appeared to condemn the conditions of country life. If a judgment may be drawn from the discussion which followed, the committee won more surprise than sympathy for their ambiguous proposition. It may be true physiologically, but it seemed very disputable for that side of rural existence where clearer air and fresher food tend towards health.

The Duty of Physicians under the New Drug Law.

Experience will severely test the new legislation as to the use and possession of narcotics. There has been very little so far in the nature of effective restraint on this class of offenders. A few wretched creatures have been hunted out and punished, but the real evil continues. The law has set moralists by the ears, tactlessly submitted the physician to a great deal of embarrassment of questionable propriety, and drawn upon innocent people an explosion of virtuous wrath from touters who have a sinister interest in a certain class of hospitals and sanatoriums. It is nothing more than a trap to get clients for speculative managers of these asylums. This view is quite natural, as magistrates have the power to send to asylums people who habitually use narcotics. The habit of taking any of the forbidden drugs, such as chloral, cocaine, heroine, codeine, is made an offence. The physician who takes them may be punished by suspension or by withdrawal of his licence, and he may be sent to a prison, styled, according by a delicate euphemism, a State hospital. A widely spread circular states that these unhappy patients should be kept for a year under some form of treatment; but this treatment may be as harmful as the original habit. Belladonna has a great vogue in certain hospitals. One habit is thus superadded to, or substituted for, another. The inevitable question in these inquiries is, When is the "delator" and blackmailer going to begin? Fortunately, we have not got very far with this. In one instance a manufacturer was arrested by the Federal authorities for sending heroin by post from one State to another. The prosecution has slumbered—no new thing under American political methods. Clearly the physician must be careful, and great prudence must be exercised to leave no ground for suspicion. Doctors coming from England and the Continent to the United States should know that the law demands that prescriptions shall be written on the doctor's own prescription blanks bearing their name, address, office hours, and telephone number, and the name of the patient must be given. Above everything, the physician should not have in his keeping an unlawful quantity of morphine, cocain, heroin, or their salts; for, ridiculous as it seems, the mere possession of these drugs is an offence. When the physician wants a lawful quantity he must write the order on an official paper supplied by the State Department of Health. These papers are recorded and kept for reference. The Department of Health of New York city has arrived at a scheme, framed more or less on the sanitary code, which seems likely to be adopted, for assisting the physician. This allows the physician to get drugs that he needs on his own prescription, but it absolutely prohibits the sale to laymen. Prosecutions under the law have been few. A notorious doctor, a former gaol-bird, but employed by the city and appointed under the Civil Service, has been sent to prison for a year for selling cocain to patients in one of the city hospitals. A little girl has been arrested by detectives, who watched her buy heroin for her mother. The chemist who sold it was also arrested, and all are likely to be convicted. On the other hand, it appears from the testimony of the former Warden of Sing Sing prison and the comments of the daily newspapers that a set of rascals, backed by politicians, have organised on a gigantic scale the smuggling of whisky and drugs into the gaols for the use of criminals. From the profit there is in this traffic for politicians it seems hardly possible to clear the prisons of this element.

July 24th.

SOUTH AFRICA.

The South African Medical School.

A REPORT recently submitted to Parliament shows that the total number of students attending the medical courses at the South Africa College during 1913 was 45, and that the school has made on the whole good progress during the year. Formerly two factors militated against the second year of study. The first was that the examination of the Cape University (first B.Sc. in agriculture) which most British universities accept as exempting from further examination in chemistry, botany, zoology, and physics, was, admittedly, a more severe examination than that obtained elsewhere. Representations, however, were made to the University in regard to the standard of the examination, and

certain alterations have been made since to modify the examination. During the past year intimation was received from the General Medical Council of the United Kingdom that in future the Cape matriculation would be accepted only provided 50 per cent. were obtained in English, history, Latin, mathematics, and an optional language. On representations from the College, the Cape University, and the local branch of the British Medical Association, however, the General Medical Council decided that recognition would be granted to a pass in the Cape University matriculation examination, which includes English, history, Latin, mathematics, and at option Greek or a modern language such as Dutch, French, or German. The second factor was that the medical course is not a detached course, but has to be dovetailed into other courses, reducing its effectiveness. This apparently has not as yet been remedied. The following facilities and concessions are now granted to the College by British Universities and other bodies—viz., the General Medical Council recognises the South African College as an institution approved for the study of medicine and dentistry. The first year's course in medicine, as well as the first professional examination conducted by the Cape University, is accepted by the Universities of Edinburgh, Aberdeen, Bristol, and Manchester, by the Conjoint Board of England, and by Trinity College, Dublin. The classes in the first year are accepted by the Universities of Glasgow, Aberdeen, and Durham. The second year's course is recognised by the Universities of Aberdeen and Edinburgh and by the Conjoint Board of England. The preliminary scientific course in dentistry (first year) is recognised by the Royal College of Surgeons of England, as well as by that of Edinburgh and by the Edinburgh Dental School. The course of public health, for which no students apparently have as yet entered, is recognised by the four conjoint Boards of Physicians and Surgeons of Edinburgh, Glasgow, England, and Ireland. The position may be summarised thus: The first year course and examination are now recognised at most of the important centres in Britain. Negotiations are still proceeding to place the second year course on the same footing, as well as to get recognition for a pass in anatomy and physiology in the B.A. science examination, or at a second M.B. examination which the Cape University is willing to institute. Apparently it is hoped that in the near future this will be accomplished, and with this in view the College is considering the further extension of the medical school, so as to include a third year, but this would of course involve questions of accommodation, equipment, hospital facilities, and increase of staff. This would seem to be altogether a premature step as things are in South Africa to-day, and the College authorities would be well advised for the present to concentrate on obtaining facilities for the first and second year's courses only. With a view of securing representation of medical opinion throughout the Union it was decided to extend the constitution of the Medical Committee so as to comprise the Presidents or chief officials of the Colonial Medical Council (Cape), the Cape of Good Hope (Western) Branch of the British Medical Association, the Transvaal Medical Council, the Orange Free State Medical Council, the Natal Medical Council, the Cape Dental Association, the Medical Board of the Somerset Hospital, the Senate of the South African College, with three medical members to be appointed yearly by the Senate, and the professors of medical subjects and the lecturer in hygiene, South African College. The new constitution seems to have proved satisfactory.

Nursing Bursaries.

At a recent meeting of the Colonial Medical Council (Cape) a letter was read from the provincial secretary, stating that the provincial administration had decided to grant two bursaries in connexion with each half-yearly examination for trained nurses held by the Council, to be available only for candidates from the State-aided hospitals of the province. The provincial secretary instructs that a list of the nurses successful at each half-yearly examination for trained nurses, setting forth in regard to each successful candidate the hospital at which trained and the order of merit, should be forwarded to his office soon after each examination in order that the bursaries may be awarded. The bursaries are valued at £20 and £10 respectively, and "will be granted unconditionally, but the administration hopes that the money will be applied by the holders towards furthering their professional education, more particularly for the purpose of undergoing a maternity training."

July 10th.

INDIA.

The Wells of Bombay and Malaria.

AT a recent meeting of the Bombay corporation it was moved that the present policy of having the wells in the city closed hermetically be temporarily suspended, and that a trap door be allowed in the case of such wells as are not contaminated with sewage, until such time as the city is provided with a constant supply of water and with water cisterns in the different wards of the city. Dr. Master, in supporting this proposition, said that he had carefully considered the question, not on religious but on utilitarian grounds. The wells had been closed in connexion with the antimalarial campaign. He did not think it possible to stamp out malaria even if all the wells of the city were closed. The city water-supply was intermittent, and the poor who had not sufficient storage vessels suffered great hardship. People who complained of not being able to get water on the top floors were asked to use pumps, but there were instances where water could not be obtained even with the use of pumps. Referring to a complaint by the chairman of the improvement trust, that in one of the chawls they were unable to get sufficient water, so that the chawl remained vacant a long time, he said that in the last two months there had been several stoppages in the water-supply owing to bursts in the main and fires, and he had seen people running with buckets from Dhobie Talao to the fort to get their supply of water. He therefore gave notice of the motion. Mosquitoes were allowed to breed in the city in open drains, the tanks in mosques and temples, and the storm-water reservoir, so he was opposed to hermetically closing the wells in the city. The Commissioner characterised Dr. Master's motion as a retrograde step, that would be justifiable only if wells with trap doors were found to be harmless. There was nothing more harmful than trap doors. The most eminent authority on sanitation who was present at the Madras Sanitary Conference, Dr. C. A. Bentley, strongly advocated the closing of wells. The storm-water drain and reservoirs were far from

residential quarters. He pointed out that since the wells were closed the mortality from malaria had decreased. The water in almost all the wells in the city was not potable. A few years ago there might have been weight in this proposition, but now that measures to improve the supply of water were nearly complete there was no justification for it. This discussion illustrates the difficulties in carrying out antimalarial measures in India.

Mortality from Wild Animals and Snakes.

The total mortality amongst human beings in the Bombay Presidency due to wild animals was 20 during the past year, as against a total of 29 for the previous year. The mortality caused by snake-bite rose from 1140 to 1406. The total human mortality from wild animals and snakes thus shows a net increase of 257 over the preceding year's figures. The renewal of rewards for the destruction of snakes in the Ratnagiri district, where the mortality from snake-bite is alarmingly high, is under consideration. According to the Government resolution just issued, the total number of cattle killed by wild animals and snakes decreased from 10,322 to 9898, whilst the number of wild animals and snakes destroyed during the year rose from 3027 to 3471 and from 27,038 to 27,336 respectively. The aggregate amount of rewards paid for the destruction of wild animals and venomous snakes rose from Rs.4914 to Rs.5157.

Toxic Properties of Cinchonine.

In the report of the Chemical Examiner of Bengal there is an interesting account of some unexpected results from an experiment with cinchonine. What appeared to be two phials of sulphate of quinine obtained from a shopkeeper at Karimganj were sent to the Chemical Examiner for analysis. Both samples proved to be cinchonine, neither containing any quinine. To test the physiological action of the drug 5 grains each were administered to two adult cats, one of which retained the drug, the other vomited it. The one that retained it developed within 15 minutes frequent severe convulsive symptoms closely resembling those of strychnine poisoning, and died in a few hours. The other cat developed marked twitching of the muscles, became utterly prostrated, and died in 12 hours. As cinchonine was not known to possess such toxic properties it was thought these samples might be contaminated with some unknown poison. A sample of known purity was therefore obtained and 3 grains were administered to a cat. This animal also developed severe convulsions, twitchings of the muscles, and extreme prostration, but ultimately recovered. The Chemical Examiner points out that in the Extra Pharmacopœia the dose for an adult human being is given as 1 to 10 grains, and it is also stated that it should be used in larger doses than quinine to produce the desired result. As cats are found to be about equally susceptible with human beings to the action of poisonous drugs this case is of interest, for cinchonine is not infrequently used as an antiperiodic and febrifuge.

Diabetes in Madras.

The Government of Madras is undertaking an investigation into diabetes, and it is understood that Dr. Patterson has been appointed to investigate the subject. Dr. Patterson holds a studentship under the Beit trustees for the study of this disease.

Hospital Nurses' Good Work.

Praise for the good work done by the nurses is an outstanding feature of the annual report of the Jamsetjee Jijibhoy Hospital Nursing Association, while the devotion of the All Saints' Sisters in the work of supervising the nursing of this great hospital is warmly acknowledged. During the past year 11 nurses passed the first examination, 17 the final examination, and 14 the midwifery examination. During the year Indian nurses were sent up for the full general course for the first time, and five out of six passed the junior examination. It is hoped that the institution will soon have its own convalescent home. Money is in hand for building purposes and a piece of land near the sea and not too far from Bombay may be given to the committee. During the year the private nursing staff nursed 415 cases, an increase of 115 cases on the previous year.

July 9th.

Obituary.

JAMES D. FARQUHARSON, M.B., C.M. GLASG.

THE death of Dr. James D. Farquharson, of Westgate-road, Newcastle-upon-Tyne, one of the best-known practitioners in the city in many spheres of activity, occurred recently. Born at Perth in 1858, he was educated at Perth Academy, and started at an early age in Glasgow by becoming attached to the Glasgow *Evening News*. In a short time he rose to be sporting editor of this paper, and during the whole period of his undergraduate days he retained that position. He graduated in medicine in 1884 at the University of Glasgow with distinction, and immediately started practice as assistant to the late Dr. Lynn, of Newcastle-on-Tyne, on whose decease soon afterwards he succeeded to the practice, which by his ability and personal qualities he rapidly increased. It was only his habits of concentration and power of doing with the minimum of rest that enabled him to carry on for nearly 30 years one of the largest practices in the city. It would be difficult to mention anything that Dr. Farquharson did not take an interest in. He was for some years a member of the council of the city of his adoption. He did not often take part in debate, but whenever he spoke his remarks convinced one that he had brought to bear upon the question under discussion careful and intelligent study. For over 20 years he was a member of the Newcastle Royal Garrison Artillery, and retired with the rank of surgeon-major, and within the last two months received a belated V.D. He enjoyed great popularity with officers and men. He was one of the founders of the Pen and Palette Club, twice President; many times president of the Burns Club; an active member of the Glasgow University Club; past-president of the West-End Medical Society; and joint secretary of the Northumberland and Durham Medical Society. He was also a member of the executive of the Newcastle division of the British Medical Association.

A successful practitioner, an energetic public man, and a good sportman, Farquharson's death leaves a great gap in the life of Newcastle.

Correspondence.

"Audi alteram partem."

ORAL SEPSIS AND THE EXTRACTION OF TEETH.

To the Editor of THE LANCET.

SIR,—May I put my finger at once on the weak spot of Sir James Goodhart's protest in THE LANCET of July 25th against "wholesale" extraction of teeth? It lies in the sentence, "I examined his mouth very carefully, and his teeth were to my eye perfect." It is exactly the failure on the part both of doctor and dentist to realise on the one hand the amount of dental sepsis, and on the other the extent to which the tissues resent its presence—i.e., the local signs of inflammation and destruction or hypertrophy of tissue—that leads to the present conflict of opinion. Sir James Goodhart asserts that "pyorrhœa" is a painful malady; pain is an uncertain symptom, often absent through the whole course of the disease. His description of "pyorrhœa" as deep-seated, pent-up suppuration in the alveoli does not apply to the great majority of cases met with in dental practice. Pent-up pus means acute abscess and pain, but the usual case of "pyorrhœa" presents at the necks of the teeth freely discharging sinuses; if a sinus become blocked, then there is the acute state Sir James Goodhart refers to. He also speaks of "trivial ulceration of the edges of the gums." The ulceration of "pyorrhœa" is not found patent on the edges of the gums; it is hidden on the tooth-ward side of the gum-flaps that help to form the pockets of "pyorrhœa." Perhaps I may be excused for suggesting that Sir James Goodhart's protest may not be so well founded as at first sight it seems.

Till lately teeth were preserved at all costs, and perhaps the swing of the pendulum has in some individual cases gone too far. I suspect we could all relate cases in which we have saved the patient's teeth after "wholesale" extraction has been advised, but my daily experience convinces me that in the gross more good is done by "wholesale" extraction of teeth that are suspect than by conservation. The more intimate knowledge that X rays give us, increasing clinical experience, and the study of large numbers of skulls stored in our museums so far from tending to contract my horizon of the evils and extent of dental sepsis tend continually to widen it. I may add that at the museum of the International Dental Congress now being held in London, August 3rd–8th, at the Imperial College of Science and Technology, South Kensington, I am exhibiting a large series of jaws showing the bone changes of "pyorrhœa."

I am, Sir, yours faithfully,

Wimpole-street, W., July 31st, 1914. J. G. TURNER.

To the Editor of THE LANCET.

SIR,—It is very clear from Sir James Goodhart's letter that he has not devoted the special attention necessary to make himself acquainted with the methods of diagnosing periodontal disease. Had he taken the trouble to wrap a wisp of cotton-wool round a very thin bristle and gently passed this round each tooth in the case he mentions he would probably have found "pockets" round the condemned teeth. Then had he warmed the bristle after withdrawing it from these pockets and held it under his nose he might possibly have had some glimmering as to the justice of the condemnation. Further, had he had a skiagraph taken to show the condition of the alveolar processes he would probably have seen areas of rarefying osteitis and possibly even abscess cavities round some of the roots. There are many such cases where there is no pus at the gum margin and very little gingivitis present—cases where unless a proper, careful, and scientific examination is made the mouths may easily be passed as being healthy, and they are passed daily by great numbers of practitioners who have not devoted enough attention to this subject. Yet it is these same cases which so frequently give rise to grave joint lesions and many other maladies too numerous to mention here. This type of pyorrhœa, by the way, *never* gives rise to pain.

Further, if Sir James Goodhart would attend the out-patient department of one of the numerous hospitals in London where these cases are diagnosed and thoroughly treated, he would be astonished at the innumerable instances of very marked improvement in the general health of the patients who have had "perfectly sound teeth" (according to the general public) removed.

I am, Sir, yours faithfully,

FRANK ST. J. STEADMAN,
Assistant Dental Surgeon to the Royal Dental Hospital.

Queen Anne-street, W., July 27th, 1914.

To the Editor of THE LANCET.

SIR,—I desire as a dental surgeon to a London hospital to support Sir James F. Goodhart's contention in THE LANCET of July 25th, that "a harmful practice has come into vogue that needs to be held up." Extreme methods are usually wrong. I have to see a great many dirty mouths in which there is no deep-seated suppuration, and my experience confirms the view that scaling of the teeth and the use of the toothbrush twice daily with a corrected dietary yield quite marvellous results. The term pyorrhœa has been used too often loosely to cover all conditions of oral sepsis.

A condition of asepsis is impossible in any mouth, therefore the term is relative. Teeth that are firm enough to be used in mastication should be saved. It is quite easy to remove all the teeth, but not so easy to restore the function of mastication, with an abundant flow of saliva and all the values of trituration of foods in the mouth.

I shall not trespass on your space fully to argue the matter out; I quote my thirty years' experience only in support of my opinion.

I am, Sir, yours faithfully,

GEORGE THOMSON,
Honorary Dental Surgeon to the Royal Hospital for Diseases of the Chest, &c.

Harley-street, W., July 28th, 1914.

THE WORKING OF THE NATIONAL INSURANCE ACT IN GREAT YARMOUTH.

To the Editor of THE LANCET.

SIR,—Dr. R. H. Shaw, who I understand was one of your Special Correspondent's informants, has come forward to carroborate presumably his own statements. They do not agree with what other informants who are on the panel said, and as there is no hope for peace in Yarmouth medical circles until a clear understanding is arrived at I beg you to insert a full statement from me.

With regard to allocation, Dr. Shaw was present at one, and only one, meeting of the panel doctors

(Jan. 28th, 1913), held at the request of our tuberculosis officer, who wished to explain the tuberculosis regulations to the members of the panel. The doctors not on the panel were invited out of courtesy. They were our guests in the offices of the Insurance Committee. Information gained thus should not have been handed over to the press. With this violation of custom Dr. Shaw has combined gross inaccuracy. The minute to which he alludes runs thus:—

> A rough estimate of cards signed was taken, and it was resolved to point out to the Insurance Committee that steps should be taken to deal with those outstanding.

Allocation was neither mentioned nor intended. We wanted people to exercise their own choice of doctors before they were ill. As a matter of fact, this minute does not appear to have been communicated to the Insurance Committee at all.

Nothing was done about allocation by us until we had to answer a letter from the Insurance Committee two months later. Then we dealt with methods only and made no pressure. Dr. Shaw does not refer to another minute I read on Jan. 28th as follows:—

> Dr. —— is requested to write to Dr. —— suggesting that those medical men not on the panel should join the Statutory Committee,

which showed that we still desired their presence and coöperation. When in March a general meeting of all the doctors was officially called to form a Local Medical Committee, the members of the panel combined to put a non-panel doctor in the chair, again showing a kindly disposition.

With regard to the hospital, my speech complained of was made just after the receipt of a letter from the secretary of the Great Yarmouth Hospital by the Insurance Committee containing the following resolution:—

> At a meeting of the committee of the above institution (Great Yarmouth Hospital) held on Monday afternoon last, the following resolution which had been passed by the honorary medical staff was adopted by the committee: That while in no way going back on their previous resolutions your honorary medical staff will continue to take in selected cases amongst insured persons for operation which are not necessarily cases of urgent necessity until March 1st, in order that the Local Insurance Committee may have time to make the necessary arrangements for providing that attention which the Act imposes upon them.

I need not trouble you with comment. Wiser counsels prevailed, of course, and no serious alterations were made in local hospital management.

In conclusion, I must allude to the account your Special Commissioner gave of a special meeting of the Medical Benefit Subcommittee of the Insurance Committee which all the medical practitioners in Great Yarmouth were invited to attend in January, 1913. The chairman opened by expressly stating that whatever was then said should necessarily be regarded as said in committee or *in camera*. We now have a version of an important particular in the public press and a copy of THE LANCET'S article sent to one of the local papers. Who has been the informant? I cannot criticise this version, but I can say that from inquiries made since there is no doubt that if a panel had not been formed promptly we should have had an influx of an efficient medical staff for attending all insured persons and others besides. Those who joined to form the panel at the last moment contend that they saved the livelihoods of nearly all the local medical practitioners, and that the pledge was dead when they took this step.

I am, Sir, yours faithfully,

Great Yarmouth, August 4th, 1914. HENRY BLAKE.

THE TECHNIQUE OF ARTIFICIAL PNEUMOTHORAX.

To the Editor of THE LANCET.

SIR,—May I express regret for the tardy appearance, owing to my absence on holiday, of this reply to Dr. W. Parry Morgan's letter. Dr. Morgan is generous enough to accept my assurance that I can "pass a blunt needle through the parietal pleura so that its orifice rests in the pleural cavity without injuring the visceral pleura," but, nevertheless, maintains that I "cannot obtain ample manometer oscillations without causing the lung to leak and thereby supply the necessary gas to communicate movements to the manometer." It is clear from what follows that Dr. Morgan accepts the oscillations of which I gave examples in my letter as "ample"; this being so he must either hold that a leakage occurs from the unwounded lung, or else his polite acceptance of my ability to spare the visceral pleura was a mere figure of speech and represents in reality the exact opposite of what he thinks. I should have taken no offence if he had said what he meant more baldly and trust that none will be taken by him if my own criticisms are and have been less veiled under a cloak of politeness.

On purely theoretical grounds Dr. Morgan rejects the possibility that so small a quantity of gas as is contained in 6 cm. of the manometer tubing can be sufficient, after entering the pleural space, to supply a respiratory oscillation of 4 cm. extent in one arm of the manometer. I confess I fail to see the difficulty in this, and would still oppose theory with fact and retort that it must be sufficient, since in practice this fluctuation occurs under conditions where leakage from the lung can really not be held to occur. If a positive pressure could be obtained on coughing, as Dr. Morgan suspects, then I would certainly admit that the pleural cavity contained additional air; but I am not aware that a true positive pressure is caused by cough in these cases, and all that I obtain myself is a mere momentary upward oscillation of the fluid produced by the sharp momentary impulse. This swing suffices to give extra assurance of the whereabouts of the needle's point, but is a much smaller phenomenon than that caused by cough in cases where gas has been already introduced, and where, no doubt, a true positive pressure is produced.

The valve action of the lung, which Dr. Morgan accuses me of overlooking, is not a phenomenon which concerns those who use a side opening as well as a terminal one to their needle. That in the absence of this side opening it can occur and cause symptoms of blockage of the needle I should be perfectly ready to admit, and also that some of Dr. Morgan's cases were very probably of this nature if he uses a needle with a single terminal opening.

That the presence of pleural adhesions necessarily implies the absence of a potential pleural space, as Dr. Morgan asserts, I should certainly be inclined to deny from the results of personal experience. I have treated a case where small quantities of gas could be put in, at negative pressures at first, over

many parts of the lung, but where no efficient pleural space could be opened out.

Dr. Morgan remarks that experience with his apparatus would cause me to remove the objections I have expressed, and I do not deny that some apparent difficulties would probably disappear after prolonged use of the method. But, unfortunately, I am still in the hopeless condition of considering the single manometer an extremely satisfactory instrument, and of differing entirely with Dr. Morgan's condemnation of it. My attitude towards his two manometers reminds Dr. Morgan of the one-time rejection of the single manometer by the pioneer of pneumothorax therapy, but I think a little consideration will soon show him how very superficial is the resemblance between the two cases.

With regard to my fear that the oscillations would be damped down by inertia of the fluid in the reservoirs of his manometer, I am glad to have his assurance that this is groundless, for there seem to me great points of convenience in this arrangement of movable reservoirs. He then remarks: "Curiously enough, the only advantage which Dr. Riviere sees—that is the advantage regarding the range of working pressure—really does not exist." I should like to ask how he reconciles this with his statement in the original paper that "we may record a pressure of 35 cm. by raising, −35 cm. by lowering, the manometer reservoirs." The arrangement of the apparatus certainly seems to bear out the correctness of this, his original assertion.

Finally, Dr. Morgan's preference for oxygen because if it passes into the tissues it is more quickly absorbed and produces less surgical emphysema serves to illustrate very well the objection, if not the danger, of the continuous flow of gas which Dr. Morgan favours. With the established method no such leakage of gas need occur, and I cannot help feeling that its avoidance is a gain on the side of safety and convenience alike.

With apologies for the length of this communication, I am, Sir, yours faithfully,

Inverness, August 2nd, 1914. CLIVE RIVIERE.

TUBERCULIN "ENTHUSIASTS."

To the Editor of THE LANCET.

SIR,—I think the letter in your issue of July 25th by Dr. Charles Miller a most important one. As he writes the time for discussing this subject is passed. This so-called remedy has received a long and careful trial, and the consensus of opinion formed by unbiassed observers is that no benefit arises from the injection of tuberculin and that even when used with the greatest care harmful results are liable to ensue.

The insurance authorities would do a great public service if they officially condemned this drug, for such action would go far to banish its use from all paths of practice. Surely it is time the true position of tuberculin in the treatment of pulmonary tuberculosis should become a matter of common knowledge.

I am, Sir, yours faithfully,

London, July 28th, 1914. THOS. GLOVER LYON.

To the Editor of THE LANCET.

SIR,—I was glad to find in THE LANCET of August 1st that Dr. J. E. Squire is in agreement with my remarks. Dr. Squire, however, does not see how any blame can be put upon the Insurance Committee, as they do not direct the form of treatment. In the case which I quoted I do blame the Insurance Committee. If they had not instructed my patient to attend at a certain dispensary she would never have been treated with tuberculin. Official interference between doctor and patient was the initial step towards tuberculin treatment.

With regard to the treatment itself and the method of administration in this case, I prefer not to express my opinion, as I do not think it necessary to do so.—I am, Sir, yours faithfully,

Queen Anne-street, W., July 31st, 1914. CHARLES MILLER.

THE USE OF LIQUID PARAFFIN IN ENTERIC FEVER.

To the Editor of THE LANCET.

SIR,—Professor Ll. P. Phillips's advocacy in THE LANCET of paraffin in typhoid fever raises a larger question than whether we should administer it for constipation in one massive daily dose or in repeated divided doses for the sake of its lubricant and protective action—namely, what it can do for the septic diarrhœa in the worse type of cases. The "local treatment of the bowel," which must remain our first consideration until the vaccine treatment may have completely suppressed the disease, was not thought of, at any rate not practically attempted, before Sir William Jenner's indictment of milk as a factor in the septic intestinal fermentation of typhoid fever. We owe the clinical proof of the correctness of that view to Prideaux Selby's historical paper[1] on the successful substitution of whey for milk in the dietary. That paper deserves full credit for having led to the wider practical conclusion, subsequently identified under the name of the "empty bowel treatment" or "traitement à vide,"[2] that from the beginning to the end of our treatment the all-essential indication is the constant sanitation or sanitary toilet of the bowel. For the "evacuant" purpose in that treatment paraffin was used as an adjuvant in frequent fractional doses; and subsequently it was found that, as an additional security, a small daily dose of castor oil was useful and well borne. That treatment also aimed at "disinfection" by the free administration of animal charcoal (originally used in France by Bouchard in typhoid) for the sake of its remarkable absorptive and neutralising power over alkaloids, as, for instance, after massive lethal doses of strychnine or morphine. But the first and indispensable indication was to systematically and completely remove the septic culture from the lower ileum; leaving the upper bowel and the stomach in a much better condition for their all-essential alimentary function of absorbing abundant supplies of varied and nourishing foods (either purely crystalloid, such as sugar and salts; subcrystalloid and diffusible, such as the maltine group, yolk of egg, and whey itself; or leaving practically no residue, such as cream, predigested foods, meat and fruit jellies, &c., and particularly white of egg added in high dilutions to the whey to replace its coagulable casein).

That proposition has, I believe, never been fully discussed. It still faces us, on the foundation, which presumably is not disputed, that the multiple spread of the ulcerations (accounting for the clinical "relapses"), up the ileum and down into the colon, is secondary, and most probably due to

[1] THE LANCET, Nov. 2nd, 1901, p. 1182.
[2] Brit. Med. Jour., vol. ii., p. 1507, 1905.

direct local fæcal auto-infection (if not so, then clearly the result of a concentrated bacillæmia derived from an unchecked intestinal culture). The only safety for the patient, for his nurses, and for the community lies in systematic aseptic sanitation of the lower ileum; or, at the least, in its complete freedom from all septic fæcal retention. That practical therapeutical conclusion has acquired in recent years additional urgency from the discovery of the carrier evil. The remedy for that evil is not yet forthcoming, except conceivably from systematic individual vaccination. Ought it not really to consist in trying to forestall the carrier's ulceration, and in limiting his subsequent bacillary impregnation by assiduous intestinal cleansing from the first and throughout his period of treatment, followed, as it should be, by regulation in all cases of typhoid by "test cultures" of the blood and fæces at the termination of convalescence?

To these elementary principles I might venture to add a statement that no thorough scheme of treatment can afford to merely test the blood in suspected cases and watch the pulse and temperature for a week for a diagnosis. The patient we suspect claims immediate treatment, seeing that the eventual extension, possibly even the actual development, of his dreaded ulceration is in some measure a facultative quantity, according to the efficiency of the earliest treatment. That immediate treatment should be one that cannot possibly do any harm, and which will for a certainty do him good, even if he should be starting an appendicitis, or possibly a pneumonia. The latest practical addition I was able to make towards that more thorough treatment was never published because the opportunities for its further clinical study have failed me, and because the only available cases which I treated without any definite success were not in their earliest stage. It consists in a prophylactic treatment of the inflammation of the valve which precedes its ulceration by the most active means available (short of surgery in the shape of appendicostomy and of transvalvular catheterisation for antiseptic or paraffin irrigations which I suggested as possibly applicable in the earliest typhoid stage, but have practised only for colitis)—namely, by local blood depletion; by leeching the cutaneous venous system over the right iliac fossa, or, more rationally for anatomical reasons, the hæmorrhoidal venous system itself directly at the anus. That suggestion, for what it is worth, I now venture to submit to clinicians for suitable trial at the early stage for which alone it is intended.

I am, Sir, yours faithfully,

Upper Brook-street, W., August 1st, 1914. WILLIAM EWART.

THE LATE PROFESSOR HUGO KRONECKER.

To the Editor of THE LANCET.

SIR,—In the sympathetic account of Professor Kronecker, appearing in your issue of July 25th, p. 270, it is stated that he died in Berne. This was not the case. He was returning from a meeting of the German Physiological Society, where he had been giving a demonstration, and died suddenly at Nauheim of syncope. I should like to add my testimony to that of your correspondent to the extraordinary kindness and consideration of Kronecker to all foreigners and strangers who came his way.

I am, Sir, yours faithfully,

Arosa, July 28th, 1914. EGBERT MORLAND.

ISOLATION OF DIPHTHERIA CASES.

To the Editor of THE LANCET.

SIR,—Dr. A. T. Nankivell's reply to my letter is obviously quite in official order, but it is just this official order which I desire to upset. There are, as he asserts, many instances of forgetfulness and neglect and ignorance in my letter, but there is no necessity to combat such assertions. The question for decision is very simple. Has our system of isolation of patients suffering from scarlet fever and diphtheria succeeded in controlling these diseases or has it really resulted in increasing the number of sufferers? It is well known to epidemiologists, we read, that in certain years or group of years such diseases may be epidemic, and I have also read of a thirty-year swell, a seasonal ripple, and a five-yearly wave.

Surely, if we could arrive at the natural history of the diseases we might then have some prospect of dealing with them effectively. The very large number of annual notifications appears to demonstrate that mere isolation is insufficient and that institutional treatment may be not such an unmixed blessing as is officially believed. Both diseases are the result of a local infection, and it appears to me that if the members of the medical profession were to look upon all forms of sore throat as essentially of the infective type a great step forward would be made in the control of both scarlet fever and diphtheria.

At the present moment the fact remains that 130,026 notifications of scarlet fever and 50,850 of diphtheria were made in 1913. When the capital account and the annual expenditure in connexion with isolation is considered such a result is one to be deplored, and letters such as that of Dr. Nankivell only demonstrate official complacency which is destructive of progress.

I am, Sir, yours faithfully,

Hatfield, August 2nd, 1914. LOVELL DRAGE.

ELECTRICITY AND NEURASTHENIA.

To the Editor of THE LANCET.

SIR,—There is a tendency once more to use static electricity for the relief of various neuroses and psycho-neuroses, but very little work seems to have been done on the relation between either (1) quantity, or (2) tension of electricity and the relief of ailments of this class. What we want to know is, how far increased size or number of plates in the static machine will benefit our patients, and how far one should rely on strong applications given at short sittings or on small doses given over a longer time. My own experience in this matter has been instructive. Commencing with a small Wimshurst machine (eight 8-inch glass plates), for several years I obtained excellent results in the treatment of neurasthenia and psychasthenia. Recently, deciding to have a larger machine, I had one constructed consisting of eight 24-inch plates and well adapted to give much greater tension and quantity, although the latter is, of course, in all ordinary static work extremely small. However, it has not appeared that my results have been any better with the larger machine, and on inquiry I cannot find that others working with still larger apparatus have obtained better results than I have always been able to secure with the small Wimshurst. I am fully aware that it may be contended that as most

of my treatment is based on a combined psycho-electrical method, in which the principle of direct suggestion is brought to bear as strongly as possible, I am not in a position to judge as to the efficacy of different sized static machines. But, as a matter of fact, I am referring now directly to the physical efforts produced and fairly attributable to the electricity, having in mind cases which have been treated by both small and large machines without direct suggestion.

I admit that we are entirely in the dark as to the auto-suggestive effect that the use of electrical apparatus brings about in the case of many sensitive patients. Has it not indeed been said that some 90 per cent. of electro-therapeutic cures are due to suggestion? An over-estimate no doubt.

The points that could profitably be discussed just now are, (1) how far increased therapeutic benefit is obtained in the case of nervous patients by increasing the size of static machines above an 8-inch plate apparatus; (2) how far the patient subconsciously makes use of the machinery as a peg on which to hang his self-suggestions and expectation of cure; and (3) to what extent tension and quantity respectively influence the results obtained.

Whilst my experience has shown me that without doubt successes can be scored by a combined psycho-electrical method that cannot be obtained with the use of either static electricity or suggestion used alone, the better definition of the part played by the physical agent, which unquestionably has an immediate effect on circulation and general tone, must be of obvious assistance to all practical neurologists.—I am, Sir, yours faithfully,

London, W., July 24th, 1914. EDWIN L. ASH.

A NEW TEST FOR MORPHINE.

To the Editor of THE LANCET.

SIR,—Since the publication of the new reaction for morphine, an annotation on which appeared in THE LANCET for July 25th, I find that one of a somewhat similar character has recently been described by M. Denigés using copper sulphate instead of metallic copper. It is referred to in "Le Guide pour les Manipulations de Chimie Biologique" (Paris, 1910), by Bertrand and Thomas. As I was unable to find any mention of it in any English or German works on the subject I concluded that the whole of the reaction was new—an error I haste to correct.

I am, Sir, yours faithfully,

T. H. OLIVER.

The Cancer Research Laboratory, University of, Manchester, July 28th, 1914.

THE SURGEON'S POLE.

To the Editor of THE LANCET.

SIR,—I solicit the aid of your readers in solving a problem which has hitherto failed to arrest the attention of the many who have been interested in the origin and use of the barber's pole. In several books, Brand's "Popular Antiquities" and Hone's "Every-day Book" amongst others, there is the statement that Lord Thurlow in the House of Peers, on July 17th, 1797, said that "By a statute still in force the barbers and surgeons were each to use a pole." The barbers were to have theirs "blue and white striped, with no other appendage; but the surgeon's, which was the same in other respects, was likewise to have a gallipot and a red rag, to denote the particular nature of their vocation."[1]

In THE LANCET of August 12th, 1905, p. 498, "Lucus" suggested that the red lamp might be a derivative of the red rag, and the same thought may have entered the heads of others who may have given any attention to the origin of old trade signs, but the point I want light upon is *this statute*, mentioned by Lord Thurlow. Where is it to be found, seen, or verified? In the "Annals of the Barbers" there is an allusion to a surgeon's sign. On Oct. 2nd, 1724, a quack named Thomas Cooke was examined; "the Court directed him to take down his surgeons sign." Was this sign the pole which Lord Thurlow's statute referred to? Perhaps some antiquarian-minded reader may afford me the information which I have failed to reach.

I am, Sir, yours faithfully,

Carlisle, July 28th, 1914. H. A. LEDIARD.

THE INTRAMEATAL TREATMENT FOR SUPPURATIVE OTITIS.

To the Editor of THE LANCET.

SIR,—It is a good many years since I was able, through your courtesy, to advocate this treatment for the first time in THE LANCET. There was at the time over-enthusiasm for the radical mastoid operation, and in my opposition to that operation as a routine treatment for otorrhœa I was in a minority of one at the Otological Congress of 1899. The one statement of my opponents that I found difficult to meet was that the good results shown by my method of treatment would be temporary. Knowing how often cases relapsed after the radical operation had been performed, I could only "wait and see."

I have recently seen four of my old cases, now perfectly well, on whom I performed otectomy more than six years ago; one of them ten years ago. These cases had all been under treatment before they came to me, and one, a lady aged 68, had been advised to have the radical operation performed. Two of them had cholesteatoma, a condition that the books say calls for the radical operation. However, by means of my antrum syringe (already described in THE LANCET) I was able to wash away the masses, and there has been no recurrence for some considerable time. One of these cases has almost perfect hearing. These cases are only selected in so far as they happen to have recalled themselves to my recollection. Irrigation with or without otectomy will rarely fail to disinfect the aural cavities if carried out as I advise. Re-infection is possible, no doubt, after any treatment, but I know that very few of my cases have had any serious return of trouble. It is some years since I have found it necessary to perform the radical mastoid operation, but I have seen a good many cases in which this operation has been performed with unsatisfactory results. I am, Sir, yours faithfully,

Harley-street, W., July 31st, 1914. F. FAULDER WHITE.

CLARET AS A BEVERAGE.

To the Editor of THE LANCET.

SIR,—I have read with pleasure the very able annotation under this heading in THE LANCET of July 25th. Such views, advanced by so competent an authority, cannot but do good in making better known the qualities of this most wholesome and palatable wine. I venture to remark, however,

[1] Hone's "Every-day Book," vol. i., p. 1269.

that although Bordeaux is the home of claret, other wine-producing countries can and do grow wines which have the same characteristics.

Italy, which last year had the largest wine production in the world, exports large quantities of excellent light red wines which can compete with the French clarets; many people prefer them. Of these wines the best known is Chianti, which is familiar, of course, to all visitors to Italy, and which in its characteristic wicker-covered flasks may be seen on the table at any good hotel or restaurant. These Italian wines are produced under the most perfect conditions, and analysis has shown them to be remarkably free from acidity, easily digested, and of low alcoholic strength. The high dietetic value of these wines and their very moderate price make them particularly suitable as an everyday beverage.

I am, Sir, yours faithfully,

London, July 28th, 1914. EGIDIO VITALI.

THE NATIONAL INSURANCE ACT.

DISTRIBUTION OF THE UNALLOTTED FUNDS IN LONDON.

THE London Insurance Committee has accepted an offer by the Insurance Commissioners to undertake responsibility for the distribution of the funds accumulated during 1913 in respect of insured persons who had not chosen a doctor. In a letter to the committee the Commissioners stated that though they still held to the opinion that the committee had no need to fear legal consequences in making a distribution in accordance with the Regulations, they sympathised with the fears of individual members of the committee. The Commissioners proposed to use for the purpose of distributing the unallotted funds moneys from the Exchequer grant voted by Parliament for the additional remuneration of the doctors, leaving the committee to pay, out of moneys credited to Approved Societies, that portion of the remuneration of practitioners which was not in dispute.

THE COST OF PRESCRIPTIONS.

Recent correspondence in the *Times* has raised points of interest with regard to the discounting rendered necessary by deficits in the drug funds of certain areas. With reference to the surcharging of medical men on the panels found after inquiry to have given prescriptions exceeding what is reasonably necessary for the adequate treatment of their patients, Mr. H. Wippell Gadd wrote: "This is not the same thing as surcharging the cost of any prescription above a certain average, and from my experience on a Joint Services Committee I can testify that the power of surcharging is only used as a last resort, and then only in a case of what may be called 'fancy prescribing,' which is generally the ordering of proprietary drugs which are sold at exorbitant rates." Another writer gave from the actual experience of an area in which the druggists' accounts had been discounted the following figures: Highest number of prescriptions per insured person, 12; highest average price per prescription, 1*s.* 2½*d.*; highest average cost per insured person, 9*s.* 10½*d.* No drug fund under present conditions could stand any considerable number of prescriptions amounting to nearly half a sovereign apiece, but it would not be impossible to provide for the extra cost in cases where a Medical Benefit Committee was satisfied that drugs of a costly character promised relief to the insured patient. It might also be possible to give the patient in all cases the option of using a costly drug if he were to be willing and able to pay for it. As one of the correspondents said, before any doctor can be surcharged it must be remembered that his professional colleagues will be a party thereto.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians and of the Council of the Royal College of Surgeons on July 30th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon 97 candidates who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board, and have complied with the by-laws. The following are the names and schools of the successful candidates:—

Wilfred Herbert Alderton and Christian Philip Sidney Allingham, London Hospital; Carl Frederick Anthonisz, Ceylon Medical College and Middlesex Hospital; Arthur Laurence Anthony, Cambridge University and Guy's Hospital; Arthur Beeny Appleton, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; William Daniel Arthur, St. Mary's Hospital; Joe Edward Ashby, Charing Cross Hospital; Leonard Barron Baird, Manchester University; Frederick Alexander Beattie, L.S.A. Lond., Guy's Hospital; Martin Wright Kidman Bird, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Norman Briggs, University College Hospital; Ian Macdonald Brown, M.A. Cantab., Cambridge University and London Hospital; Noel Hawley Michael Burke, King's College Hospital; Andrew John Chillingworth, St. Bartholomew's Hospital; Ernest Robert Townley Clarkson, M.A. Cantab., Cambridge University and St. Mary's Hospital; Marcus Thomas Gonzalez Clegg, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; *John Robert Mitchell Collie, Dalhousie University and University College Hospital; Barry Keyte Tenison Collins, M.A. Cantab., Cambridge and Birmingham Universities and Middlesex Hospital; Stephen Harold Cooke, Melbourne University and London Hospital; David Lloyd Davies, Charing Cross Hospital; Duncan Constantine de Fonseka, L.M.S. Ceylon, Ceylon Medical College and London Hospital; John Baptist Gregory Dotto, St. Bartholomew's Hospital; George Ernest Elkington, M.B., Ch.B. Birmingham, Birmingham University; Humphrey Leonard George Foxell, University College Hospital; William Dawson Galloway, B.A. Cantab., Cambridge University and Guy's Hospital; Georg Arnold Gassmann, London Hospital; Egerton Gray, L.S.A. Lond., Cork and London Hospital; Evan Williams Griffith, University College, Cardiff, and University College Hospital; Bernard George Gutteridge, St. Thomas's Hospital; Alfred Risdon Hacker, Westminster Hospital; Owen Hairsine, Middlesex Hospital; Charles Stewart Parnell Hamilton, Durham University and Charing Cross Hospital; Arthur Herbert Harkness, Guy's Hospital; Arthur Henry Harty, M.B., Queen's University, Kingston, Kingston and London Hospital; Horace William Hay, University College Hospital; Henry Sydney Colchester Hooper, London Hospital; George Barrowclough Horrocks, Manchester University; Alfred Morgan Hughes, L.D.S. Eng., Westminster Hospital; John Bowman Hunter, B.A. Cantab., Cambridge University and University College Hospital; Ronald Nelson Hunter, London Hospital; Byron Levick Hutchence, B.A. Cantab., Cambridge University and London Hospital; Rhys Trevor Jones, B.Sc. Wales, University College, Cardiff, and St. George's Hospital; Thomas Clatworthy Kidner, Middlesex Hospital; Strangman Davis Kilner, B.A. Cantab., Cambridge University and Middlesex Hospital; George Charles King, B.A. Cantab., Cambridge and Liverpool Universities; Constantine Lambrinudi, B.A. Cantab., Cambridge University and Guy's Hospital; Joseph Lloyd and Charles Eric Lowe, Westminster Hospital; Desmond Manns MacManus, Guy's Hospital; Frank Mahabir, M.D. New York, University of New York and London Hospital; *Refna Mallet, Royal Free Hospital; John Burnett Matthews, B.A. Cantab., Cambridge and Liverpool Universities; Joseph Leopold Meynell, L.M.S.S.A. London, London Hospital; John Daniel Milne, M.B. Toronto, Toronto University; Bhamini Mohon Mitra, Calcutta University and Middlesex Hospital; Frederick John Nattrass, M.B., B.S. Durh., Durham University; Duncan Westlake Pailthorpe, Charing Cross Hospital; Cyril Eaton Petley, Guy's Hospital; Kenneth Bernard Pinson, Birmingham University; David John Platts, King's College Hospital; D'Arcy Power, St. Bartholomew's Hospital; Arthur Bennet Preston, London Hospital; William Bentley Purchase, B.A. Cantab., Cambridge University and London Hospital; John Bromley Rawlins, St. Mary's Hospital; George Francis Rowcroft, St. Bartholomew's Hospital; Henry Christmas Samuel, Ceylon Medical College and Middlesex Hospital; Farid Henein Abdel Sayed, Cairo and St. Mary's Hospital; Frederick Gilbert Laughton Scott, B.A. Oxon., Oxford University and Guy's Hospital; Philip Dennis Scott, Guy's Hospital; Edward James Selby, Cambridge University and St. George's Hospital; Abdel Khalek Selim, Guy's Hospital; Jatindranath Sen, M.B. Calcutta, Calcutta and University College Hospital; Gerald Davenant Shann, King's College and St. George's Hospitals; William Hopper Shephard, B.A. Cantab., Cambridge University and Charing Cross Hospital; Alfred George Simmins, Guy's and Westminster Hospitals; Issachar Reuben Smith, M.B. Toronto, Toronto University and Middlesex Hospital; Kenneth Vickerman Smith, Charing Cross Hospital; George John Chase Smyth, Westminster Hospital; Leonard Colin Somervell, B.A. Cantab., Cambridge University and London Hospital; Frederick Lionel Spalding, Guy's Hospital; Clifford William Sparks, St. Thomas's Hospital; Charles John Stewart, M.D., C.M. McGill, McGill University and London Hospital; Gavin Stiell, St. Thomas's Hospital; Evelyn Alexander Sutton, Charing Cross Hospital; Charles Hambden Thomas, St. Bartholomew's Hospital; Thomas Ainsworth Townsend, B.A. Oxon., Oxford University and Guy's Hospital; David Christopher Leslie Vey, B.A. Cantab., Cambridge University and University College Hospital; Ernest Haines Walker, St. Thomas's

Hospital; John Frankland West, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Cecil Leonard Williams, St. Bartholomew's Hospital; Frederick Arnold Williamson, B.A. Cantab., Cambridge University and St. Mary's Hospital; John St. George Wilson, M.B., Ch.B. Liverp., Liverpool University; Frederick Butwell Winfield, Cambridge and Birmingham Universities; William Pridham Wippell, St. Bartholomew's Hospital; Thomas Mansergh Wood-Robinson, Middlesex Hospital; Montague Sydney Woolf, M.A., B.Sc. Birm., University College Hospital; and Ernest Jenner Wright, St. Mary's Hospital.

* The Diploma of M.R.C.S. was previously conferred on July 9th.

Diplomas in Public Health were also conferred conjointly by each College upon the following 39 candidates who have passed the requisite examinations:—

Estelle Irene Elgin Atkinson, M.B., Ch.B. Manch., Manchester University and University College; William Jacob Bannister, M.D., B.Ch., B.A.O. R.U.I., Dublin and King's College; Lalit Mohon Biswas, L.M.S. Calcutta, Calcutta and University College; Arthur Bloom, M.B., Ch.B. Edin., Edinburgh University and University College; Samuel Bradbury (Surgeon, R.N.), M.B., Ch.B. R.U.I., Royal University of Ireland, Haslar, and Greenwich; Hari Chand, L.M.S. Punjab, L.R.C.P., M.R.C.S., Punjab University and University College; Armando Dumas Child, M.B., Ch.B. Edin., and Robert Edward Collins, M.B., Ch.B. Edin., L.R.C.P., M.R.C.S., Edinburgh University and University College; Norman Edwin Dunkerton (Captain, R.A.M.C.), L.R.C.P., M.R.C.S., King's College and Royal Army Medical College; William Egan (Captain, R.A.M.C.), M.B., B.Ch., B.A.O. R.U.I., and Henry Horace Andrews Emerson (Captain, R.A.M.C.), M.B., B.Ch., B.A.O. Dubl., Dublin and Royal Army Medical College; James Erlank, M.B., Ch.B. Edin., Edinburgh University and University College; Kiranendu Ghosh, L.M.S. Calcutta, Calcutta and King's College; Saurenda Mohon Ghosh, L.M.S. Calcutta, L.R.C.P., M.R.C.S., Calcutta and University College; David Hughes Charles Given (Surgeon, R.N.), M.B., B.Ch. R.U.I., Royal University of Ireland, Haslar and Greenwich; John Griffiths, L.R.C.P., M.R.C.S., Cardiff and London Hospital; Sydney Harold Griffiths, L.R.C.P., M.R.C.S., Middlesex and University College; Frederick Duke Gwynne Howell (Captain, R.A.M.C.), L.R.C.P., M.R.C.S. St. Thomas's Hospital and Royal Army Medical College; William Wilson Jameson, M.D., B.S. Aberd., M.R.C.P., Aberdeen University and University College; Thomas Steven McIntosh, M.D., B.S. Edin., Edinburgh University and University College; William Henry McKinstry, M.B., C.M. Glasg., Glasgow University and Charing Cross Hospital; Hyacinth Bernard Wenceslaus Morgan, M.B., Ch.B. Glasg., Glasgow University and King's College; Bidhan Prosad Mozoomdar, L.M.S. Calcutta, Calcutta and King's College; Vincent Philip Norman (Captain, I.M.S.), L.M.S.S.A., Lond., London Hospital and University College; George Singleton Parkinson, (Captain, R.A.M.C.), L.R.C.P., M.R.C.S., Bristol University and Royal Army Medical College; Abraham Zadok Philips, M.D., Ch.B. Edin., Edinburgh University and King's College; Robert Bernard Price (Lieutenant, R.A.M.C.), M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital and Royal Army Medical College; Khwaja Abdul Rahman M.B., Ch.B. Edin., Edinburgh University and University College; Rajendra Coomar Roy, L.M.S. Calcutta, Calcutta and King's College; Kaikhushroo Sorabjee Sethna, L.M.S. Bombay, and Jagannath Vishnu Shirgaokar, L.M.S. Bombay, L.R.C.P., M.R.C.S., Bombay University and University College; Frank Standish, M.B., B.S. Lond., L.R.C.P., M.R.C.S., London Hospital; William David Henderson Stevenson (Captain, I.M.S.), M.B., Ch.B. Glasg., Glasgow University and University College; Sachindra Nath Sur, M.B. Calcutta, Calcutta and King's College; Alexander Lewis Urquhart (Lieutenant, R.A.M.C.), M.B., Ch.B. Edin., Edinburgh University and Royal Army Medical College; Francis William Waterworth, M.B., Ch.B. Edin., Edinburgh and Leeds Universities; John Sutton Webster, M.B., Ch.B. Manch., Manchester University and King's College; James Ingram Pirie Wilson, M.D., B.S. Aberd., Aberdeen University and University College; and William Bamford Winston, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital and University College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW AND ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH.—The recent examinations of the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow, held in Glasgow, were concluded on July 25th. The following candidates passed the First Professional Examination:—

William Hutcheson Duff, Glasgow; Thomas Lloyd Edwards, North Wales; Robert Leslie Goodall, Glasgow; John Hughes, North Wales; and Archibald Paterson Robb, Glasgow.

The following candidates passed the Second Professional Examination:—

William Campbell Borrie, Birnam; Norman Stewart Bruce, Glasgow; John Thomas Dier, Wexford; John Vaughan Griffith, Upholland, Lancs.; Lloyd William Hughes, North Wales; John Gray M'Kendrick Macaulay, South Uist; Joseph William Morris (with distinction), North Wales; Duncan Reid Nicol, Banchory; Reginald Joseph Patchett, Bolton; and Robert Pollok, Dumbarton.

The following candidates passed the Third Professional Examination:—

Gordon Beveridge, Glasgow; James Theodore Brady, Belfast; Andrew Gaston, County Antrim; Arthur Leslie Giblin, Tasmania; George Melsen Harley, Glasgow; John Park Mathie, Staffs.; Charles Read (with distinction), Glasgow; Purushottam Mohaniroj Saptarshi, India; and George Thomson, Glasgow.

The following candidates passed the Final Examination and were admitted L.R.C.P.E., L.R.C.S.E., and L.R.F.P.S.G.:—

Laurence Fraser, Shetland; Richard Bridge Lilly, Tynemouth; George Loudon Neil, Lesmahagow; Rona Lockhart, Nitshill; Sengarapillai Ponniah, Ceylon; Andrew Crawford, Glasgow; John William Cowie, Tillicoultry; John Gilchrist, Glasgow; George Frederick Walker, Southport; John Rennie Corrie Gordon, Whiteinch; Andrew Wilson Cochrane, Glasgow; Abraham Isaac Clarke, Belfast; Babu Singh Thakur, India; Cyril Armand Bernard, Liverpool; Cyril Gray, County Durham; and David Winthrop Woodruff, Glasgow.

UNIVERSITY OF LONDON.—At the Second Examination for Medical Degrees, Part II., held recently, the following candidates were successful:—

Girdhar Clement Agarwala, London Hospital; Frank Macdonald Allchin, Westminster Hospital; Ruth Balfour, London (Royal Free Hospital) School of Medicine for Women; Charles Hunter Donaldson Banks, St. Bartholomew's Hospital; John Anthony Birrell, University College, Cardiff; Alethea Josephine Bolton, University of Birmingham; Guy William John Bousfield, St. Thomas's Hospital; Leslie James Forman Bull, St. Bartholomew's Hospital; Phillip Caro Leslie Carrier, King's College and Charing Cross Hospital; Hester Mary Church, London (Royal Free Hospital) School of Medicine for Women; Percy Selwyn Clarke and Philip Nield Cook, St. Bartholomew's Hospital; Cyril John Chesterfield Cooke, University College; Gunaratnam Franklin Cooke, St. Bartholomew's Hospital; Dorothy Trevor Daintree, London (Royal Free Hospital) School of Medicine for Women; Robert Cecil Davenport, St. Bartholomew's Hospital; Peter Gerald Stevenson Davis, St. Thomas's Hospital; * † ¶ Leonard Snowden Debenham, Guy's Hospital; James Daniel Dyson, Middlesex Hospital; Thomas Stenner Evans, University College, Cardiff; Marjorie Ellen Franklin, London (Royal Free Hospital) School of Medicine for Women; William Bashall Gabriel, Middlesex Hospital; Iris Harding, London (Royal Free Hospital) School of Medicine for Women; †Arnold Guy Harsant, London Hospital; Frank Keith Hayman, University of Bristol; Nathan Norris Haysom, St. Bartholomew's Hospital; Graham William Heckels, Guy's Hospital; †William Andrew Hewitson, University of Durham; Frederick George Edward Hill, University of Sheffield; Edward Arthur Holmes, King's College; James Wynn Hyatt, London Hospital; †Jack Joffe, Guy's Hospital; Thomas John-Thomas, King's College; Michael Harry Kirkpatrick Kane, University College; Victor John Frederick Lack, London Hospital; Naunton Morgan Lewis and Rhys Thomas Lewis, University College, Cardiff; Edward Eric Lightwood, King's College and Westminster Hospital; Marguerite Frances Jane Lowenfeld, London (Royal Free Hospital) School of Medicine for Women; Philip Sydney Marshall, University College; Maurice William Holt Miles, St. Thomas's Hospital; Marie Mathilde Alice Moralt, London (Royal Free Hospital) School of Medicine for Women; †Arthur Morford, St. Bartholomew's Hospital; John James Murphy and Sinnethamby Muttiah, London Hospital; Noel Olivier and Margaret Stuart Palmer, London (Royal Free Hospital) School of Medicine for Women; Victor J. E. C. del S. Perez y Marzan, University College; Bertram Henzell Pidcock, St. Bartholomew's Hospital; Thomas Dawson Pratt, University of Leeds; John Alexander Pridham, St. Bartholomew's Hospital; Walter Murad Abdul Rahman, Paul Rigauld Riggall, and Gabriel Francis Rodrigues, University College; William Richard Rowlands, University of Liverpool; Trevor Cecil Russell, St. Mary's Hospital; Steuart Noy Scott, King's College and Charing Cross Hospital; William Reith John Scroggie, University College; Nirendra Mohan Sen-Gupta, Mandell Shimberg, and Robert Gordon Simpson, London Hospital; William Steadman, University College; Ellen Sylk, London (Royal Free Hospital) School of Medicine for Women; Kenneth Robert Traill and Martin Baird Moore Tweed, Guy's Hospital; Rustam Navroji Vakil, University College; Samuel Vidot, Guy's Hospital; Phillis Emily Webb and Lottie Weihermann, London (Royal Free Hospital) School of Medicine for Women; †Oscar Williams, University College, Cardiff; †Graham Selby Wilson, Charing Cross Hospital; and Campbell Young, University College.

* Distinguished in Anatomy. † Distinguished in Physiology.
¶ Distinguished in Pharmacology.

The Academic Council have approved the following scheme of advanced lectures and advanced practical work in physiology for the session 1914–15:—University of London. (1) 1st term: Mr. J. A. Gardner, eight lectures, the Respiratory Exchange and Metabolism of Fresh Water Fish. (2) 2nd term: Dr. H. MacLean, eight lectures, the Lipoids, their Chemical Nature, Isolation, Distribution, and Physiological Significance. (3) 3rd term: Dr. F. L. Golla, eight lectures, Reflex Action. University College. (4) 1st term: Dr. A. J. Page, eight lectures, Fridays, 5 P.M., Chlorophyll and Hæmoglobin. (5) 2nd term: Page May Memorial Lectures, Fridays, 5 P.M. King's College. (6) 2nd term: Dr. O. Rosenheim, four lectures, Mondays, 4.30 P.M., starting Feb. 1st, 1915, Glucosides and Galactosides from the Biochemical Point of View. (7) 3rd term: Professor T. G. Brodie, F.R.S., four lectures, June, 1915, on Mondays and Wednesdays, at 4.30 P.M., Sensory Innervation of the Viscera. Guy's Hospital. (8) 2nd term: Dr. Pembrey and Dr. Ryffel, eight lectures, Thursdays, 4.30 P.M., Metabolism in Infancy. (9) 3rd term: Dr. C. J. Douglas, four lectures, the Blood as an Internal Medium. London (Royal Free Hospital) School of Medicine for Women. (10) 1st term: Dr. Winifred Cullis, four lectures, Thursdays, 5 P.M.,

Physiology of the Heart. Advanced practical work for B.Sc. honours examination:—University College. (11) 2nd term: Professor Bayliss, Physical Chemistry in Relation to Physiology. St. Bartholomew's Hospital. (12) 2nd term: Dr. Edkins, Electro-Physiology. Guy's Hospital. (13) 1st term: Dr. Pembrey, Respiratory Exchange; Dr. Hertz, Investigation of Movement of Alimentary Canal by the X Rays. King's College. (14) 3rd term: Professor Halliburton and Dr. Rosenheim, Chemistry of Urine. Bedford College. (15) 3rd term: Dr. Edkins, Advanced Practical Histology. Courses numbered (1), (2), (3), (4), and (8) are recognised as advanced lectures which a candidate at the B.Sc. honours examination may name for part of his practical examination.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following were the successful candidates at the examination held at the end of the forty-fifth session (May–July, 1914):—

A. C. Munro (Captain I.M.S.), M.B. Glasg. (Duncan and Laicaca medals), C. Bonne, M.B. Amsterdam, J. M. Stenhouse, M.B., B.C. Cantab., J. S. Webster, M.B., Ch.B. Vict. (Colonial Service) (all with distinction); G. W. Maconachie (Captain I.M.S.), M.B. Aberd., W. M. Shepherd (Colonial Service), M.B., Ch.B. Edin., W. M. Strong, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., J. C. Watt (Colonial Service), M.B., Ch.B. Glasg., B. H. Wedd, M.D. Lond., D.P.H., H. G. Waters, M.R.C.S. Eng., L.R.C.P. Lond., Miss O. N. Walker, M.B., B.S. Durh., J. Baeza, M.B., Ch.B. Edin. (Colonial Service), A. C. Anderson (Captain I.M.S.), M.R.C.S. Eng., L.R.C.P. Lond., N. S. Deane (Colonial Service), L.R.C.P. & S. Irel., L. S. Holmes, State Diploma, Bengal, A. G McPhedran, M.B., B.H. Toronto, J. V. Shirgaokar, M.R.C.S. Eng., L.R.C.P., L.M. & S., C. Sivasithamparam (Colonial Service), L.R.C.P. & S. Edin., L.F.P. & S. Glasg., R. K. Mitter (Lieutenant-Colonel I.M.S.), L.R.C.P. & S. Edin., M.B. Calcutta, C. H. Barlow, M.D. Chicago, R. B. Jackson, M.B. Dub., I. A. Rahman, M.R.C.S. Eng., L.R.C.P., W. J. Dixon, M.R.C.S. Eng., L.R.C.P., M.B. Madras, C. K. Attlee (Colonial Service) M.R.C.S. Eng., L.R.C.P., S. Elias (Cairo Medical School), K. B. Dastur, L.M.S. Bombay, D.P.H. Dub., and A. G. Fletcher, M.D. Chicago.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates were successful:—

Surgery.—J. C. P. Bayley (Sections I. and II.), Manchester; C. D. Day (Section II.), St. Bartholomew's Hospital; and G. B. Holroyde (Sections I. and II.), London Hospital.
Medicine.—L. B. Clarke (Section II.), Cambridge and St. Mary's Hospital; and G. W. Maw (Section II.), University College Hospital.
Forensic Medicine.—C. D. Day, St. Bartholomew's Hospital; and A. Glen, Glasgow and Sheffield.
Midwifery.—A. Glen, Glasgow and Sheffield; S. B. King, St. Mary's Hospital; N. W. Rawlings, Manchester; and E. M. Townsend, Middlesex Hospital.

The diploma of the Society was granted to the following candidate, entitling him to practise medicine, surgery, and midwifery: G. B. Holroyde.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS AND EPILEPSY.—Lord Hindlip has been appointed chairman of the hospital in succession to Mr. Leonard Brassey, M.P., who has resigned. Mr. Brassey will retain a seat on the hospital committee and has made a most generous proposal in respect of the rebuilding of the hospital.

TUBERCULOSIS HOSPITAL OPENED AT EASTBOURNE.—The last link in the chain of sanatoria advance was completed at Eastbourne on July 28th, when Dr. Arthur Newsholme, chief medical officer to the Local Government Board, opened the new tuberculosis hospital at the Sussex seaside resort. The hospital occupies a good position on the Southdowns, but under the shelter of the hills. It has 24 beds, but only 20 can be received—10 of each sex—as four wards have to be kept with single beds. In the course of a speech Dr. Newsholme said he was entirely in accord with those who attached importance to housing as a means of diminishing tuberculosis. It was, however, too often forgotten that an essential point in housing was to arrange for separating the sick from the healthy. In the homes of the wage-earning classes this usually could not be secured to the extent needed, and it was important, not only in the interest of the acute and advanced consumptive, but also in that of his wife and children, that greatly increased accommodation should be provided for his skilled attendance under satisfactory conditions. Happily, this need was being increasingly realised, and in securing this end for a large proportion of its consumptive sick Eastbourne was showing the way to other towns. As a memento of the occasion Dr. Newsholme was presented with a duplicate key to that with which he opened the institution. In further speech-making the Mayor of Eastbourne (Councillor C. W. Bolton) paid a tribute to the work of Dr. W. G. Willoughby, medical officer of health, who, his worship said, had enabled Eastbourne to attain such a high position among the healthiest towns in the kingdom.

UNIVERSITY COLLEGE, LONDON.—The Worshipful Company of Drapers have made a grant of £500 a year for three years in aid of the work of the Department of Applied Statistics, including the Galton Laboratory of Eugenics and the Drapers' Biometric Laboratory.

LITERARY INTELLIGENCE.—Messrs. Crosby Lockwood and Son are announcing for publication in the autumn a new book on the "Chemistry of Petroleum and its Substitutes," by Dr. C. K. Tinkler and Dr. F. Challenger, of the University of Birmingham. In recognition of the increasing importance of petroleum, the University of Birmingham has instituted a three years' course in petroleum mining.

EXTENSION OF YARDLEY-ROAD SANATORIUM, BIRMINGHAM.—The new buildings at the City Sanatorium, Yardley-road, were formally opened by the Lady Mayoress (Mrs. E. Martineau) on July 24th. Councillor W. A. Cadbury, the chairman of the health committee, presided, and was supported by the Lord Mayor, Lieutenant-Colonel E. Martineau, Mr. Neville Chamberlain, Mr. Gilbert Barling, Sir Robert Simon, and members of the health committee. There was present a considerable number of medical men and others interested in the work. Sir Robert Philip gave an eloquent address on the advantages of sanatoriums, the keynote of which was contained in the concluding sentences, "Prosecute your great campaign; watch the child as a potential tuberculous seedling; correct faulty compulsory environment; and there will be a practical disappearance of the disease within a generation and a half." By the opening of these buildings the scheme for the provision of sanatoriums for pulmonary tuberculosis is now complete. It is anticipated that there will now be ample accommodation for pulmonary tuberculosis and that in years to come, as the cases suitable for sanatorium treatment diminish, it may be found possible to utilise some of the existing accommodation for other types of disease or possibly for hospital cases. Much yet remains to be done in the direction of making adequate provision for the other forms of tuberculosis, and until such provision is adequate it is probable that the best results will not be obtained from the large expenditure now undertaken in connexion with pulmonary cases. The new buildings consist of (1) a women's block, 72 beds, capable of being used for women only or of being divided for use on one side for women and on the other for men; (2) a children's block of 44 beds divided for boys and girls; (3) an observation block of ten cubicles; (4) a laundry sufficient for the whole institution; and (5) an administrative block for the medical officers and nursing staff. The women's block departs in general design from that adopted in the majority of sanatoriums in that there is no protection whatever in front from wind. The block is deep enough to enable the beds to be wheeled back to avoid rain even during windy weather. This design is based upon previous experience in the older buildings where patients were kept upon a verandah throughout the winter. The patients will be kept out on the terrace night and day when the weather is settled. In unsettled weather the beds during the night will be under the glass verandah. During stormy weather the beds can be wheeled back to the wall. There are dressing-rooms in the proportion of one for four or five patients and bath-rooms for every ten patients. These are situated immediately behind the beds. Under each bed is a rack to hold a dressing-gown and slippers. There will be very complete control, for 36 beds can be seen at one time. No heating whatever is provided, but there is provision for a liberal supply of hot-water bottles. There is a terrace at the back of the buildings for use during hot weather. The children's block is on the same plan but will contain two rows of beds. The cubicles in the observation block will be used by children during the first fortnight after admission to diminish the chance of importing other infections. The total beds now available are 355 for adults and 54 for children. These are situated as follows:—Salterley Grange, 68; Yardley-road, 199; West Heath, 52; Romsley Hill (Cook Memorial), 90. The estimated expenditure by the city

council on buildings, land, and furnishing is £80,000. This does not include the Hospital Saturday Sanatorium at Romsley Hill nor the cost of the old buildings at West Heath taken over under the Greater Birmingham scheme. Towards the cost of the more recent buildings the Government grant will be £16,500, in addition to £8100 paid towards the erection of Romsley Hill Sanatorium. The estimated expenditure during 1914 on the whole of the sanatorium work is about £26,000 and on the dispensary £4500. The income for this will be derived roughly as follows: from Local Insurance Committee, £10,200; from national exchequer, £10,150; from local rates, £10,150.

INTERNATIONAL DENTAL CONGRESS.—The Sixth International Dental Congress opened its proceedings in London on Tuesday, August 4th, in circumstances of a very depressing character. Owing to the outbreak of the war many representatives of the countries now engaged in what promises to be a Titanic struggle, who had arrived in this country for the Congress, were hurriedly recalled and left immediately. At a meeting of the International Dental Federation at the University of London, on the day previous to the opening meeting of Congress, Mr. W. B. Paterson, the President, made reference to the great work of preparation which had been done by the Federation and its committee of organisation in connexion with the Congress. The Vice-Chancellor of the University of London, Sir Wilmot Herringham, who attended to welcome the Federation, complimented the committee on its labours, which a tour of inspection through the University building will show to have been very thorough. Mr. Herbert Samuel, the President of the Board of Trade, was unable to be present to open the Congress officially, but a gracious message was read by the President from His Majesty the King. Mr. Paterson then welcomed the delegates, and brief speeches were delivered by many representatives of foreign countries and of the British colonies.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 20 cases were considered and grants amounting to £208 voted to the applicants. The following is a summary of the cases relieved:—

Widow, aged 65, of M.D. Dub. who practised in India, Ireland, and London. Has endeavoured for 24 years to earn a living by keeping a boarding house, but has never really made a profit and been able to save. One daughter who helps at home. Voted £10.—Daughter, aged 44 years, of M.D. Heidel. and F.R.C.S. Eng. who practised in London. Impossible to do any regular work in consequence of ill-health. Earns a little occasionally by painting. Voted £12 in 12 instalments.—Widow, aged 62 years, of M.R.C.S. Eng. who practised at Burnley and Caister. Since husband's death has acted as housekeeper to her brother, a clergyman, who has just died, and is now without home or means. Voted £10 in two instalments.—Daughters, aged 49 and 52, of M.R.C.S. Eng. who practised at Kingscliffe. Only income about £25 each and until recently this had been supplemented by occasional work as governesses, but for the last few months unable to obtain employment. Voted £5 each.—Daughter, aged 51 years, of M.R.C.S. Eng. who practised in London. Only a very small annuity and health very indifferent. Voted £5.—Daughter, aged 57, of M.R.C.S. Eng. who practised in Norfolk. Guardian spent all capital, and only income £13 per annum given by relative. Health bad. Relieved six times, £30. Voted £5.—Widow, aged 52, of L.R.C.P. Lond. who practised in London. Endeavours to earn living by letting rooms, but has not been very successful recently. Wants a little help for repairs to house. Relieved once, £12. Voted £10.—Daughter, aged 33, of M.D. Dub. who practised at British Guiana and in Middlesex. Is suffering from her glands and her teeth require attention, consequently too ill to work. Relieved eight times, £80. Voted £10.—Daughter, aged 75, of M.R.C.S. Eng. who practised at Doncaster. Too old to work, and only income Old Age Pension. Relieved twice, £30. Voted £18 in 12 instalments.—Daughter, aged 67, of M.R.C.S. Eng. who practised at Rendcomb. Health very indifferent and quite unable to work. Relieved 12 times, £178. Voted £18 in 12 instalments.—Widow, aged 48, of M.R.C.S. Eng. who practised at Hexham and London. Endeavours along with her daughter to earn a living by taking in boarders, but not successfully. Stepson helps a little. Relieved five times, £60. Voted £12 in 12 instalments.—Widow, aged 65 years, of M.D. Glasg. who practised at Dennistoun. Has a small pension from the Elder Fund, and son pays rent of house. Takes in boarders in the summer, but does not get sufficient to make it pay. Relieved six times, £54. Voted £12 in 12 instalments.—Daughter, aged 58, of L.R.C.P. Edin. who practised in North London. Health very bad and unable to work. Recently received a pension of £40 from the Mercers' Company. Relieved eight times, £83. Voted £5.—Daughters, aged 42 and 50, of L.S.A. Lond. who practised at Sydenham and Plumstead. The elder suffers from migraine and the younger is an epileptic, both unable to work. Recently lost mother, who had a small pension. Joint income only £45 per annum. Relieved eight times, £83. Voted jointly £18 in 12 instalments.—Widow, aged 64, of M.D. Edin. who belonged to the R.A.M.C. Suffering from cancer, and has been operated upon. Small army pension, but not sufficient to provide necessary nourishment. Relieved once, £6. Voted £10.—Widow, aged 69, of M.R.C.S. Eng. who practised at East London and who died last year. Left her quite unprovided for. Health very bad. Five children, but none able to assist. Has a pension from the Fishmongers' Company of £30, and total income about £45. Relieved once. £12. Voted £12 in 12 instalments.—Widow, aged 64, of M.D. St. And. and M.R.C.S. Eng. who was engaged by the Stepney Union. Tries to earn a living by taking in lodgers, but cannot make enough to live on. Four children, none able to help. Relieved 11 times. £132. Voted £12 in 12 instalments.—Widow, aged 48, of L.R.C.P. & S. Edin. who practised at Stamford Hill. Suffering from cancer, and has been operated upon and quite unable to work. Has one daughter, aged 17 years, who earns a few shillings weekly. Has no income. Has been helped by the Guild. Relieved twice, £38. Voted £18 in 12 instalments.—A special emergency grant of £1 was also made to an urgent case.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

UNIVERSITY OF MANCHESTER.—The medical session at the University of Manchester will be inaugurated by an address delivered in the medical school on Oct. 8th, at 4 P.M., by Professor E. S. Reynolds, M.D. Lond., F.R.C.P. Lond., on "The Industrial Diseases of Greater Manchester."

ALEXANDRA DAY AND THE HOSPITALS.—At a meeting of the distribution committee of the Alexandra Day collection, held under the presidency of the Lord Mayor at the Mansion House on July 27th, it was announced that after payment of all expenses, including the making of the roses, the most expensive item, there remained some £22,000 for distribution, £6000 more than last year. Among certain institutions selected by Queen Alexandra £6645 were divided, and £14,335 were allocated to various London hospitals and institutions.

THE METROPOLITAN HOSPITAL SUNDAY FUND.—At a meeting at the Mansion House held under the presidency of Sir William Church on July 31st the council of the Metropolitan Hospital Sunday Fund allocated £59,403 to 253 hospitals, dispensaries, and nursing associations. Sir Ernest Tritton was chosen to fill the vacancy caused by the resignation of Sir John Bell as vice-chairman of the Fund, pending a permanent appointment. Sir William Church was elected to represent the Fund on the committee which is dealing with the coördination of district nursing institutions.

THE WORKMEN'S COMPENSATION ACT AND WORKERS' CRAMP.—The Secretary of State for the Home Department has appointed the following gentlemen to be Medical Referees under the Workmen's Compensation Act, 1906, with a view to their being employed in all cases of telegraphists' cramp and writers' cramp arising in the Circuits (indicated in brackets) in which the services of a medical referee are required:—Dr. Arthur Stanley Barnes (21, 22, 25, 26), Dr. John Michell Clarke (54), Dr. T. Wardrop Griffith (11, 12, 13, 14), Dr. Astley Vavasour Clarke (20), Dr. Theodore Thompson (38 to 48 and 51, and the Court for the City of London), Dr. George Hall (1, 2), Dr. Joseph Wilkie Scott (18, 19), Dr. Judson Sykes Bury and Dr. Harold Alfred Schölberg (4 to 9 and 24 and 30), Dr. Edwin Bramwell (Sheriffdoms of Fife and Kinross and the Lothians and Peebles), and Dr. Alexander Scott (Sheriffdoms of Ayr, Dumbarton, and Clackmannan).

DONATIONS AND BEQUESTS.—By the will of the late Mr. Frederick Marshall Kenderdine, of Old Trafford, near Manchester, the testator left £500 each to the Manchester Royal Infirmary, the Manchester and Salford Lock Hospital, St. Mary's Hospital, Manchester, and Owens College, Manchester.—The late Mr. Robert Jackson Kent has left by will £500 each to the Free Cancer Hospital and the Middlesex Hospital, in each case to be applied towards the discovery of the cause of cancer, the means of prevention of its development, and of a cure therefor.—By his will Mr. John James Richardson, of Whitehaven, left £1000 each to the Whitehaven and West Cumberland Infirmary, the Royal Albert Asylum, Lancaster, and Dr. Barnardo's Homes.—The late Mr. William Calvert, of Stockport, has in his will requested his executors to give £500 to the Stockport Infirmary.—The governors of the Ashton and Stalybridge District Infirmary have received a cheque for £1000 from Mrs. Elizabeth Barker, of Ashton, the money to be applied for the endowment of a cot in the children's hospital at the infirmary.—A donation of £1000 has been made by the executors of the late Sir William Dunn to the building fund of the Hospital for Diseases of the Skin, Blackfriars.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The War.

THE declaration of war between Britain and Germany became known late on Tuesday night, but it could not be announced to the House of Commons until Wednesday. Mr. ASQUITH informed the House of the final phases of the diplomatic communications which ended in the declaration. It is abundantly recognised that great national sacrifices will be required, but the Government will have behind it a united Parliament in taking all necessary measures to pursue the war.

Since the situation in Europe became threatening the attention of Parliament has been given to it exclusively. The anxiety as to the outcome of events has dominated the whole situation, and nothing has been more remarkable than the extraordinary rapidity with which the ordinary lines of party demarcation have disappeared in the face of impending danger and calamity. In these circumstances the topics of domestic controversy have for the time being been relegated to the background in the desire to present to the States of Europe a united Parliament and nation. It is unnecessary to recapitulate the stages in the development of the situation as it has been seen from Westminster. That has been done with regularity and fullness by the daily newspapers, and indeed before the ink is dry in chronicling one step in the great and momentous drama now absorbing the anxious interest and energy of Europe another step has been taken. However terrible may be the calamity that is impending over Europe, the situation has been faced at Westminster with calm.

The Budget Health Grants.

Supplementary Estimates published on Wednesday, July 29th, give details of the proposed additional grants under the National Insurance Act. The additional vote amounts to £943,100, and is made up as follows: Administration of medical benefit, £35,100; arrears of contributions, £80,000; sickness benefit (women), £500,000; medical referees, consultants, &c., £50,000; supplementary medical services (Great Britain), £50,000; nursing grants, £100,000; sanatorium benefit, £100,000; and medical attendance, &c., of aged and disabled members of societies, £28,000.

Some interesting points are dealt with in notes attached to the Estimates. It is explained in reference to the additional grant of £35,100 for the administration of medical benefit that the special grants in aid of the administration of medical benefit for the year 1914 were subject to the condition that the grants therefrom to Insurance Committees should not exceed the rate of 1½*d.* for each insured person. Experience has shown that the cost of administration of Insurance Committees per head of insured population varies with the number of insured persons in the area, and that a flat rate of grant is inappropriate. It is proposed, therefore, to apply a sum not exceeding £21,000 out of this vote in payments to certain Insurance Committees for the year 1914 in excess of the rate of 1½*d.* per insured person. As, however, there will be balances in the special accounts estimated at £20,900, which will be available towards the grants to be made for the year 1915, the net additional sum required to bring up the amount available in respect of the latter year to a sum equal to 1½*d.* per insured person is £100. Provision is also made for grants to Insurance Committees, in addition to those above mentioned, but not exceeding £15,000 in all, in respect of the special initial expenses in connexion with the administration of medical benefit in the year 1914, so far as those expenses have created a deficiency in the administration account of any committee. It is also proposed to apply a sum not exceeding £20,000 in grants to Insurance Committees in the United Kingdom towards the cost of health lectures and the publication of information on questions of health.

Then the grant in aid of £500,000 for sickness benefit (women) is to be applied towards the cost of sickness benefit, including loss of contributions, incurred since the commencement of the Act by Approved Societies having women members on a basis calculated with reference to the relative incidence of incapacity during pregnancy among such members.

Another grant is to go for the remuneration and expenses of medical referees and consultants, travelling expenses of insured persons presenting themselves for examination, and other expenses for the purpose of referee and consultant services. Any payments made by Approved Societies in respect of the services of medical referees will be paid into the Exchequer.

The grant for supplementary services (Great Britain) is to be given as grants to Insurance Committees in respect of the provision of specialist consultations in connexion with the treatment of insured persons and in aid of the equipment and maintenance of clinics for the use of panel practitioners.

As regards the nursing grants, they are to go to Insurance Committees towards the provision of nursing.

The £100,000 for sanatorium benefit is to be devoted to grants to Insurance Committees for the purpose of supplementing the funds available for sanatorium benefit under the National Insurance Act, 1911, on a basis calculated with reference, *inter alia*, to the relative incidence of tuberculosis in various areas.

Pathological Laboratories.

In the Supplementary Estimates there is a vote of £50,000 for grants to assist in the provision of laboratory facilities with a view to the prevention, diagnosis, and treatment of disease. It is explained that the money will be allocated by the Treasury to the English, Scottish, and Irish Local Government Boards for the purpose of distribution, with the approval of the Treasury, as grants to local authorities who are willing to provide or arrange for the provision of laboratory facilities with a view to the prevention, diagnosis, and treatment of disease, and who submit schemes for that purpose not later than Dec. 31st, 1914. If in any area the local authority is unwilling to provide or arrange accordingly, a share of the grants will be allocated to the National Insurance Joint Committee for distribution to the Insurance Committee of that area towards the provision of such facilities and aids. The accounts of the local authorities and Insurance Committees will be audited in the usual manner. Balances remaining in the hands of those bodies at the close of the financial year will not be subject to surrender to the Exchequer.

Milk and Dairies Bill.

Early in the morning of Wednesday, July 29th, the House of Commons considered the first three clauses of the Milk and Dairies Bill on report. Not much change was made in the text. The House decided to adhere to the decision of its committee that milk in which a high standard of purity was reached might be sold as "certified milk."

The Milk and Dairies Bill has passed through its report stage in the House of Commons without much alteration, and has been read a third time. An amendment was adopted to enable the medical officer of health, whenever he was so minded, to make a medical inspection of the persons employed in a dairy and also of the labourers employed on the farm. Another amendment was agreed to whereby milk at municipal depôts should not be sold at less than cost price. Although the Bill has received very thorough discussion in its committee and report stages it has now been carried through the House of Commons more or less with that measure of agreement which Mr. HERBERT SAMUEL, the President of the Local Government Board, aimed at attaining when he introduced it.

Indian Medical Service.

Official correspondence relating to the Indian Medical Service and the medical profession in India has been laid on the table of the House of Commons.

Nurses Registration.

A deputation including medical men and nurses last week asked Mr. MCKENNA to give facilities for the second reading of the Nurses Registration Bill. The Home Secretary declined, and although this occasion was before the full gravity of the European situation had developed, he pointed out that it was impossible at this period of the session to grant the time. An additional difficulty, he stated, was the opposition which was offered to the Bill by a section of medical men and nurses.

Patent Medicines.

It is understood that the select committee which has been considering various aspects of the use and sale of patent medicines has now completed its report. The document is now in the hands of the printers and will shortly be issued.

Voluntary Mental Treatment Bill.

Earl RUSSELL introduced the Voluntary Mental Treatment Bill in the House of Lords a short time ago. It is not intended to proceed further with it this session.

HOUSE OF COMMONS.

THURSDAY, JULY 30TH.

State Medical Service.

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East whether the Government had definitely decided to establish a State Medical Service in connexion with the National Health Insurance scheme.—Mr. WEDGWOOD BENN said: The answer is in the negative.

Medical Officers of Health in Wales.

Replying to Mr. JOHN WILLIAMS, Mr. HERBERT SAMUEL said that the Local Government Board in December, 1910,

issued a general memorandum to local authorities other than county councils in which they pointed out the advantages of appointing medical officers of health who were not to engage in private practice, and urged the authorities of small districts to combine with their neighbours to secure such an officer. It was their practice to bring this view to the notice of local authorities when a new appointment was to be made. Under the Housing, Town Planning, &c., Act, 1909, a medical officer of health appointed by a county council, after the passing of that Act, might not engage in private practice. The right honourable gentleman then gave a list of the medical officers of health employed by local authorities in Wales with the salaries attached to their office.

Woman Medical Inspector under Mental Deficiency Act.

Mr. HUDSON asked the Home Secretary (1) whether the Board of Control for the administration of the Mental Deficiency Act were now taking steps to have a medical woman inspector appointed; and whether medical inspections for the male section of the community had been in operation for practically four months under the Act; and (2) why the appointment of a medical woman inspector under administration of the Mental Deficiency Act had not been made, seeing it was on April 1st last the Board of Control considered the matter urgent.—Mr. MCKENNA replied: The matter is receiving the attention of the Board, whose views as to the need for such an appointment have undergone no change, but they have not yet secured the services of a suitable person. The matter is not urgent, as few new institutions have yet been opened, and the services of the medical men who have been appointed inspectors at various dates since the commencement of the Act are of course available for the benefit of defectives of both sexes.

The Administration of the Lunacy Act.

Mr. W. GUINNESS asked the Home Secretary whether he would give for the last available year the number of cases where medical officers or attendants had sent in certificates under Clause 8 of the Lunacy Act, 1890, stating that it would be prejudicial for a patient to exercise his right to go before or be visited by a judicial authority.—Mr. MCKENNA answered: The number of cases in the year 1913 where medical officers have sent in such certificates from institutions was 367. The figures for private patients in single care have not been tabulated.

Mr. GUINNESS asked the right honourable gentleman whether he would give for the last available year the number of reception orders made under the Lunacy Act, 1890, distinguishing those made after consideration under Section 6, those made without a judicial authority personally seeing the alleged lunatic, those where the alleged lunatic had exercised the right to go before a judicial authority under Section 8, and orders after inquisition under Section 12.—Mr. MCKENNA replied: The number of reception orders into institutions made under Section 6 of the Lunacy Act, 1890, was in the year 1913 2144. The orders made after consideration cannot be distinguished from those made forthwith. Those made without the patient being seen by the judicial authority before the order was made were 1414. In 77 cases the patient exercised the right to go before a judicial authority given by Section 8. The above figures do not include private patients in single care. The number of persons found of unsound mind after inquisition was 5 in 1912, the last year for which statistics are available.

TUESDAY, AUGUST 4TH.

Seamen and Panel Medical Men.

Mr. FRED HALL (Dulwich) asked the honourable Member for St. George's-in-the-East whether, according to the National Insurance Act, a seaman could only obtain the services of a panel doctor at the port at which he signed on; and, if so, whether he would take in the next amending Bill to give facilities for seamen to receive medical benefits and treatment at any port in the United Kingdom.—Mr. WEDGWOOD BENN replied: In the case of seamen who are members of the Seamen's National Society medical attendance is available in every port of Great Britain under the special arrangements made by that society. As regards other seamen, it is open to them to avail themselves of the special "travellers" arrangements under which medical benefit may be obtained anywhere in Great Britain.

Medical and Surgical Appliances.

Replying to Mr. WILES, Mr. WEDGWOOD BENN wrote: The medical and surgical appliances which may be supplied as part of medical benefit are those prescribed in the Second Schedule to the Regulations. Neither the Commissioners nor the Insurance Committees have any power to sanction the provision of any appliances not included in the schedule.

BOOKS, ETC., RECEIVED.

APPLETON D., AND CO., London.
Diseases of the Stomach and their Relations to Other Diseases. By Charles G. Stockton, M.D., Professor of Medicine, University of Buffalo. Price 25*s.* net.
Anemia and Resuscitation: An Experimental and Clinical Research. By George W. Crile, Professor of Surgery, Western Reserve University Medical College. Price 21*s.* net.
The Occupational Diseases: their Causation, Symptoms, Treatment, and Prevention. By W. Gilman Thompson, M.D., Professor of Medicine, Cornell University Medical College in New York City. Price 25*s.* net.

BAILLIÈRE, J. B., ET FILS, Paris.
Les Sécrétions Internes: Principes Physiologiques Applications à la Pathologie. Par le Dr. E. Gley. Price Fr.1.50.
L'Appareil Thymo-Thyroïdien: Thyroïdes, Parathyroïdes, Thymus, Anatomie, Physiologie, Pathologie, Deductions Thérapeutiques. Par L. Launoy, Docteur Ès-Sciences Naturelles. Price Fr.14.

BALE, JOHN, SONS AND DANIELSSON London.
Dental Microscopy. By A. Hopewell-Smith, L.R.C.P. Lond., M.R.C.S. Eng., L.D.S., Professor of Dental Histology at the University of Pennsylvania. Third edition, revised and enlarged. Price 15*s.* net.
On Means for the Prolongation of Life. Fourth enlarged edition. By Sir Hermann Weber, M.D., F.R.C.P. Price 4*s.* 6*d.* net.
Effects of Volcanic Action in the Production of Diseases and Atmospheric Vicissitudes. By H. J. Johnston-Lavis, M.D., D.Ch., M.R.C.S. Eng., L.S.A., F.G.S. Price 3*s.* net.

HIRSCHWALD, AUGUST, Berlin.
Die Verletzungen der Wirbelsäule durch Unfall. Ein Beitrag zur Versicherungsmedizin. Auf Grund von ca. 200 Eigenbeobachtungen. Von Dr. med. Franz Otto Quetsch. Price M.4.50.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, London.
General Nursing. By Eva C. E. Lückes, Matron to the London Hospital. New and revised (ninth) edition. Price 5*s.* net.

KIMPTON, HENRY, London.
Diagnosis and Treatment of Digestive Diseases: A Practical Treatise for Students and Practitioners of Medicine. By George M. Niles, M.D. Price 21*s.* net.
Practical Therapeutics including Materia Medica and Prescription Writing. With a description of the most important new and non-official remedies passed upon by the Council of Pharmacy and Chemistry of the American Medical Association. By Daniel M. Hoyt, M.D. Second edition, revised and rewritten. Price 21*s.* net.
Nutrition: A Guide to Food and Dieting. By Charles E. Sohn, F.I.C., F.C.S. Price 3*s.* 6*d.* net.

LIVINGSTONE, E. AND S., Edinburgh.
Gas Poisoning in Mining and other Industries. By John Glaister, M.D. Glasg., D.P.H. Camb., F.R.S.E., Professor of Forensic Medicine and Public Health in the University of Glasgow; and David Dale Logan, M.D. Glasg., D.P.H., Surgeon to the Coltness Ironworks. Price 10*s.* 6*d.* net.
Examination of the Urine and other Clinical Side-Room Methods (late Husband's). By A. F. Hewat, M.B., Ch.B., M.R.C.P. Edin. Fifth edition. Price 1*s.* 6*d.* net.

LONGMANS, GREEN, AND CO., London.
The Annual Charities Register and Digest, 1914. By C. S. Loch. Price 5*s.* net.

STANLEY PAUL AND CO., Essex-street, W.C.
Thomas Short (Principal Medical Officer in St. Helena). With Biographies of some other Medical Men associated with the Case of Napoleon from 1815 to 1821. By Arnold Chaplin, M.D. Price 2*s.* net.

URBAN UND SCHWARZENBERG, Berlin und Vienna.
Spezielle Pathologie und Therapie innerer Krankheiten. In 10 Bänden. Herausgegeben von Friedrich Kraus und Theodor Brugsch in Berlin. Lieferung 17–20 (II. Band, 2 Hälfte. Seite 261–492). Lieferung 21–24 (II. Band, 2 Hälfte, Seite 493–714). Lieferung 25–29 (V. Band, Seite 1–304). Lieferung 30–31 (I. Band, 7 Hälfte, Seite 239–250). Lieferung 32–34 (II. Band, 2 Hälfte, Seite 715–874). Lieferung 35–36 (V. Band, Seite 305–434). Lieferung 37–39 (II. Band, 1 Hälfte, Seite 431–598). Price M.2 each Lieferung.

YALE UNIVERSITY PRESS, New Haven. HUMPHREY MILFORD, London.
The Life and Letters of Nathan Smith, M.B., M.D. By Emily A. Smith. With an Introduction by William H. Welch, M.D., LL.D. Price 10*s.* net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BALLANCE, A. C., M.B., B.Ch. Oxon., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.
BIRD G. A., M.B., B.S., B.Sc. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.
BOSWELL, N. A., M.B., Ch.B. Birm., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Runcorn District of the county of Chester
BOURDILLON, L. G., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.
CASSIDI, F. L., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Assistant at St. Thomas's Hospital.
CHADWICK, ETHEL, M.B., Ch.B., has been appointed House Surgeon at the Stanley Hospital, Liverpool.

CHAPLIN, H. G., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

DAVIES, J. C., M.B., B.Ch. Oxon., has been appointed Resident House Physician at St. Thomas's Hospital.

DAWSON, H. P., M.B., B.C. Cantab., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

DE MOWBRAY, R. M., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

DENNIS, A. W., M.B., B.Ch. Oxon., has been appointed Clinical Assistant in the Children's Medical Department at St. Thomas's Hospital.

DOBBLY, A. R. C., M.R.C.S., L.R.C.P. Lond, has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

DOYNE, P. G., M.B., B.Ch. Oxon., has been appointed Junior Ophthalmic House Surgeon at St. Thomas's Hospital.

DUDLEY, FRANCIS, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Medical Superintendent at the Cornwall County Asylum, Bodmin.

GANDY, E. WORSLEY, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the Royal Ear Hospital, Soho, and Administrator of Anæsthetics to Westminster Hospital.

GIBSON, J. A., M.D., C.M. Edin., has been appointed Medical Officer of Health of East Cowes.

GIMLETTE, C. H. M., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Skin Department at St. Thomas's Hospital.

GIMBLETT, C. L., M.R.C.S., L.R.C.P., has been appointed Senior Ophthalmic House Surgeon at St. Thomas's Hospital.

HEBERT, G. T., M.B., B.Ch. Oxon., has been appointed Resident House Physician at St. Thomas's Hospital.

HIRSCH, CHARLES T. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Anæsthetist to the Royal Dental Hospital.

HOBHOUSE, E. W. N., M.B., B.Ch. Oxon., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

LEIGH, J. D., M.B., C.M. Edin., has been appointed Tuberculosis Medical Officer of Durham

LUMB, N. P. L., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

MCMILLAN, K. H., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

MARSHALL, W. H., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Assistant at St. Thomas's Hospital.

PENNELL, V. C., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

PETTY, M. J., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed House Surgeon to Block 8 at St. Thomas's Hospital.

POTTER, A. F., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Children's Medical Department at St. Thomas's Hospital.

SARGENT, E. L. K., M.B., B.C. Cantab., has been appointed Casualty Officer and Resident Anæsthetist at St. Thomas's Hospital.

SHARP, J. E., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Ear Department and in the Throat Department at St. Thomas's Hospital.

SHELLEY, L. W., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

SLOPER, J. S., M.B., B.S. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

SPARKS, C. W., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Children's Surgical Department at St. Thomas's Hospital.

SPARROW, J. A. G., M.B., B.Ch. Oxon., has been appointed Resident House Physician at St. Thomas's Hospital.

STACK, EDWARD HUGH EDWARDS, M.B., B.C. Cantab., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Bristol Royal Infirmary.

THOMAS, WILLIAM REES, M.D. Lond., has been appointed Medical Superintendent of the State Institution for Mental Defectives at Moss Side, Liverpool.

WHEELER-BENNETT, C. W., M.B., B.Ch. Oxon., has been appointed Resident House Surgeon at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BENENDEN NATIONAL SANATORIUM, Kent.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Second and Third Assistant Medical Officers. Salary at rate of £180 and £160 per annum respectively, with apartments, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £225 per annum, with quarters, board, laundry, and attendance.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BOOTLE COUNTY BOROUGH.—Clinical Tuberculosis Officer and Deputy Medical Officer of Health. Salary £400 per annum.

BRADFORD CITY EDUCATION COMMITTEE.—Chief School Dentist. Salary £350 per annum.

BRADFORD CITY HOSPITAL FOR CONSUMPTIVES.—Resident Medical Officer. Salary £200 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—House Physician and House Surgeon, unmarried. Salary £100 per annum each, with board, residence, and washing.

BRENTFORD UNION INFIRMARY, WARKWORTH HOUSE, AND SCHOOLS, Isleworth, W.—Second Assistant Medical Superintendent, unmarried. Salary £200 per annum, with usual residential emoluments.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months. Salary at rate of £150 per annum.

BRISTOL CITY ASYLUM, Fishponds.—Second Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £100 per annum, with board, rooms, attendance, and laundry.

BRITISH GUIANA.—Bacteriologist. Salary £350 per annum, with furnished bachelor quarters.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CALCUTTA CORPORATION.—Assistant Health Officer. Salary Rs.700 per mensem.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—House Surgeon for six months. Salary £70 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—School Dentist. Salary £250 per annum.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

CROYDON BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Assistant Resident Medical Officer. Salary £150 per annum, with board, residence, and laundry.

DERBY, DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer. Salary £80 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

DOWNPATRICK, DOWN DISTRICT LUNATIC ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £170 per annum, with apartments, board, washing, attendance, &c.

GLAMORGAN COUNTY COUNCIL COMMITTEE FOR THE CARE OF THE MENTALLY DEFECTIVE.—Medical Officer. Salary £300 per annum.

GLASGOW SCHOOL BOARD.—Female Assistant Medical Officer. Salary £250 per annum.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for five months. Salary 25 guineas.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

LANCASHIRE COUNTY COUNCIL.—Two Junior Assistant Tuberculosis Officers. Salary £300 per annum.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

LIVERPOOL EDUCATION COMMITTEE.—Two Assistant School Medical Officers. Salary at rate of £250 per annum.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

MAIDSTONE, KENT COUNTY OPHTHALMIC HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £100 per annum, wth board, lodging, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer, unmarried, for six months. Salary at rate of £100 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER, POOR-LAW INSTITUTION, Crumpsall.—Junior Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with rations, apartments, washing, and attendance.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-Patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence. Also House Physicians and House Surgeons, unmarried, for six months. Board and residence provided.

MANSFIELD AND DISTRICT HOSPITAL.—Resident House Surgeon, unmarried. Salary £200 per annum, with board, residence, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon and Assistant House Surgeon for six months. Salary at rate of £80 and £40 per annum respectively, with board and washing.

NEWPORT (MON.). ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.

NORWICH CITY ASYLUM, Hellesdon, near Norwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

PETERBOROUGH INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary at rate of £200 per annum, with residence, board, and laundry.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

PRESTON ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and laundry.

RETFORD, STATE CRIMINAL LUNATIC ASYLUM.—Medical Locum Tenens. Salary £5 5s. per week, with quarters, coals, light, and attendance.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £61 sterling per annum, with house (partly furnished) and garden. From Medical Association £30.

ROYAL EDINBURGH ASYLUM, Morningside.—Assistant Physician. Salary £175 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointments.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing. Also Senior Resident Medical Officer. Salary at rate of £90 per annum, with board and washing.

ST. MARYLEBONE.—District Medical Officer for poor in St. John's district of the parish. Salary £100 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Assistant Anæsthetist for six months. Salary at rate of £100 per annum, with board and residence.

SALFORD ROYAL HOSPITAL.—Casualty House Surgeon. Salary at rate of £100 per annum, with board and residence.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, and rations.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL (OUT-PATIENT DEPARTMENT).—House Surgeon. Salary £120 per annum, with board and residence.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing

SUNDERLAND ROYAL INFIRMARY.—House Physician and Junior House Surgeon. Salaries £120 and £100 per annum respectively, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £125 per annum, with board, washing, and attendance. Also House Physician. Salary £125 per annum, with board, apartments, and laundry.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon and Anæsthetist. Salary £110 per annum, with board, residence, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST RIDING OF THE COUNTY OF YORK, STORTHES HALL ASYLUM, Kirkburton, near Huddersfield.—Assistant Medical Officer. Salary £230 per annum, with rooms, board, attendance, and washing.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, and laundry.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Dunstable, in the county of Beds; and at Trillick, in the county of Tyrone.

THE Home Secretary gives notice of vacancies for Medical Referees under the Workmen's Compensation Act, 1906, for the Shetland District in the Sheriffdom of Caithness, Orkney, and Shetland; and for Cardiff and Barry County Courts in Circuit No. 24.

Births, Marriages, and Deaths.

BIRTHS.

COLLINGRIDGE.—On July 31st, at Goldwell, Goudhurst, Kent, the wife of W. R. Collingridge, M.R.C.S., of a son.

GILLIES.—On July 24th, at Kindar House, New Abbey, Dumfries, the wife of Hugh Gillies, M.R.C.P., of a daughter.

MASON.—On August 1st, at George-street, Portman-square, W., the wife of G. A. Mason, M.A., M.B., B.C. Cantab., of a son.

TURNER.—On August 4th, at St. Philip's-place, Birmingham, Olive Elgood Turner, M.S.Lond., wife of Alfred Charles Turner, of a daughter.

MARRIAGES.

BENJAFIELD—GELARDI.—On July 28th, at Holy Trinity, Brompton, Joseph Dudley Benjafield, M.D., to Elvera Helen, elder daughter of Gustave C. E. Gelardi, Folkestone.

DARBYSHIRE—BRIGGS.—On July 30th, at St. Martin's-in-the-Fields, Trafalgar-square, Stewart C. Darbyshire, M.R.C.S., L.R.C.P., to Alice, second daughter of the late Colonel John Briggs.

DEATHS.

BATLEY.—On July 31st (suddenly), at Christchurch, Hants, Albert Brook Batley, M.R.C.S., M.R.C.P., fifth son of the late Joseph Batley, of Huddersfield.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

STUDENTS' NUMBER OF THE LANCET.

INFORMATION intended for the Students' Number of THE LANCET must be sent WITHOUT DELAY, addressed to the Sub-Editor, and marked on the envelope "Students' Number Only."

PUBLIC HEALTH IN JERUSALEM.

THE British Consul reports that in Jerusalem in 1913 there were no serious epidemics of the nature of the dengue epidemic of 1912, but an unusual number of typhoid fever cases were treated in the hospitals in October and November, and measles prevailed towards the end of the year and was responsible, with attendant pneumonia, for a large number of deaths among infants and young children. Sporadic cases of typhus fever, meningitis, and diphtheria also occurred during the year. Of the diseases which are endemic in Jerusalem and its surroundings malaria is far the most important from its disastrous effects upon the public health, and all types of this mosquito-borne fever were abundantly present throughout the year, especially in the autumn months. Trachoma is another omnipresent scourge, and its destructive results were quite as demonstrable as in previous years, whilst ophthalmia gave rise to an epidemic period in the summer and was responsible for a good deal of permanent suffering, especially in children. Efforts to grapple with the problems of public health were made by the International Health Bureau, and useful work was done in combating malaria by the supply of prophylactic treatment in 28 Jerusalem schools; a Pasteur department has been instituted and more than 100 suspected cases from animal bites were treated; the bacteriological section was also of great use to local practitioners in helping to differentiate various diseases. This praiseworthy effort, however, lacks municipal authority and is therefore limited in scope and power, but it provides an object-lesson which the local government might well make use of in the establishment of a well-organised public health department. The population of Jerusalem is variously estimated at from 95,000 to 110,000, including 70,000 Jews, 13,000 Christians, and 12,000 Mahommedans. In spite of the emigration of many Jews to escape military service there has still been a marked increase in this section of the population on account of the continuous influx of aged Jews who come with the intention of ending their days in Palestine. The British community numbers about 350 souls, most of whom are missionaries. About 3000 tourists and pilgrims of the better class visited Jerusalem during the year ended May 31st, 1913.

THREE KINDS OF SURGEONS.

To the Editor of THE LANCET.

SIR,—In the Address in Surgery before the British Medical Association at Aberdeen Sir John Bland-Sutton stated that there are two kinds of surgeons—viz., craftsmen and biologists.

But there is also a third kind, the clinical surgeon, after the manner of the late Sir John Erichsen. Technique is all very well in its place, but the simpler the better for the patient. I may here be pardoned for mentioning in this connexion that the Box tunnel, near Bath, was engineered by the pick and shovel. I am, Sir, yours faithfully,

August 4th, 1914. G. P.

THE DISINFECTION OF SEASIDE SHELTERS.

To the Editor of THE LANCET.

SIR,—It would be interesting to many people at this season of the year to learn what is the rule in the various seaside places of this country in disinfecting the shelters placed for the general accommodation of the public near the beach or on the promenades. I have just returned from one well-known resort where there are shelters used by all sorts and conditions of people, and I am informed that the shelters used to be disinfected every morning, but that they are not so treated now. Considering the use or misuse that some visitors make of these shelters it would be interesting to learn if disinfection has been found to be of advantage and if it is generally practised, and, if not, why not? For all I know it may have been abandoned for sound reasons. The year before last I was very much struck by a small shelter near a bandstand in another well known resort being constantly used by an extremely dirty and verminous-looking man with evil-smelling clothes who persisted in mingling with

the well-clad visitors, much to their disgust, and on inquiry was informed that this individual was really well off and owned a house in a good road in the town and could not be turned out or made to clothe himself properly, the explanation being that he had been crossed in love in his early days and had either never troubled about his garb afterwards or else enjoyed his eccentricity or the consternation he caused to visitors.—I am, Sir, yours faithfully,

London, July 21st, 1914. PATERFAMILIAS.

CENTIGRADE AND FAHRENHEIT.

To the Editor of THE LANCET.

SIR,—Every effort is now being made to spread the use of the metric system and any little aid to the memory for this purpose is not to be despised. One simple aid in converting degrees Centigrade into Fahrenheit will be seen by looking at the face of a watch, where the X also equals 50 minutes, and remembering that likewise X degrees Centigrade equal 50 degrees Fahrenheit. Then for every extra degree Centigrade add 1·8 to the Fahrenheit. The number of extra degrees Centigrade to be multiplied by 1·8 and added to the Fahrenheit may be discovered in a simple manner. For example, it is desired to learn the equivalent in Fahrenheit of 37° C. Put down as follows:—

10° C. equal 50° F.

Difference between 10° C. and 37° C. equals 27° C., which has to be multiplied by 1·8 and added to 50° F. 27 × 1 equals 27, which add to 50, giving 77, and 27 × ·8 equals 21·6, which add, giving a total of 98·6, the number of degrees Fahrenheit. Simply:—

10° C.	equals	50° F.
37° - 10°	,,	27°
27° × ·8	,,	21·6°
Total		98·6°

I am, Sir, yours faithfully,

London, July 24th, 1914. F.

*** Our correspondent's method is ingenious, but surely not very simple.—ED.L.

HEALTH OF BARBADOS.

THE Barbados General Hospital, situated in Bridgetown, is maintained by a legislative grant and governed by a court of directors of 18 members, of whom two are life members, whereas the remainder, selected pursuant to statute, must either be Government officers or members of the legislature. With a daily average of 200 in the hospital, there were during the year 4565 admissions, 374 deaths, and 27,813 out-patients. The prescriptions prepared numbered 46,453—all these figures being in excess of those for the previous year. Considerable extensions to the buildings have been carried out, greatly increasing the accommodation hitherto provided. The new premises were formally opened by Princess Marie Louise of Schleswig-Holstein on April 28th, 1913, and her Highness graciously accepted, as a memento of the occasion, a cup bearing the following inscription:—

Ego
misericordiae dolorem levantis signo
delectus illustrissimae regiae domus
alumnae Mariae Louisae ipsi eiusdem
misericordiae exemplari hospitii
infirmis curandis in insula Barbadoe
publico sumpto sustenti et nuper aucti
nova aedificia faustis auspiciis coram
populo inauguranti ante diem iv. kal. mai.
anno salutis nostrae MCMXIII.
donatus sum.

At the lazaretto there were 15 admissions and 11 deaths, leaving 120 inmates at the end of the year. The average daily number was 118·4. The average stay of those who died was 11·1 years, and of those remaining 9·8 years. Compulsory segregation is not in force in the colony.

At the lunatic asylum the daily average number of patients fell from 420 in 1911 to 400 in 1912. Forty-four patients were discharged as cured and two as relieved. An Act entitled "The Registration of Births, Baptisms, Marriages, and Burials Amendment Act" has been passed by the legislature. It provides for the recopying of dilapidated registers, and prescribes a new form of burial certificate which will disclose whether the person buried is or is not illegitimate, thus affording evidence as to the correctness of the allegation that the percentage of deaths of illegitimate children is greater than the percentage of deaths of legitimate children.

Owing to its freedom from malaria and its excellent winter climate the island continues to be largely visited by tourists and persons in search of health. The number of tourists in 1912 was 2741, as compared with 2164 in 1911 and 644 in 1910. In addition, 3929 first-class passengers arrived in the colony. Hotel and house accommodation for the visitors is increasing.

A NOVEL PAPER ENTERTAINMENT.

AT the hospital fête held at "Riverdale," Lewisham, recently in aid of the local hospitals one of the attractions was the lifting of visitors on single sheets of paper. This was superintended by Mr. Theo. May, whose firm, Messrs. Theo. May, Limited, wholesale stationers, &c., Lewisham, had given a quantity of their "Bank-Note" brown wrapping paper, an exceedingly strong paper, for the purpose. The lifting was easily effected by placing a sheet of "D. D. Imperial" paper on the ground, getting the person to be lifted to sit upon it and then passing the ends over a couple of thick cornice poles. In some cases two persons were lifted at the same time on one sheet, in one case no less than 361 lb. being lifted at once.

PLAGUE AND CHOLERA IN THE PHILIPPINES.

Mr. W. M. Royds, British Vice-Consul at Manila, states in his annual report that the slight outbreak of plague which began there in June, 1912, after complete absence for upwards of five years, continued in a spasmodic way until May, 1913. It then appeared to have completely died out, but in September a fatal case again occurred, this time contracted by an American in the business district. Again active sanitary measures and rat catching were energetically pursued, and although one or two native cases occurred subsequently before the end of the year nothing like a severe outbreak ever threatened. New house-building regulations, providing rat-proofing for all new houses, are shortly to be put into force, and it is expected that plague will soon disappear again entirely. A few cases of cholera, no case of which had been recorded since 1911, occurred in August, 1913. Thereafter a few cases were notified weekly up to the end of the year, the total recorded at that time from the beginning of the outbreak being about 100.

C. T.—The following books will be found useful:—"Lang's German-English Dictionary of Terms Used in Medicine and the Allied Sciences." Second edition. Edited and revised by Milton K. Meyers, M.D. London: J. and A. Churchill. 1913. Price 18*s.* net. "Medical Vade-Mecum in German and English." By B. Lewis. London: J. and A. Churchill. 1910. Price 15*s.* net. "Dictionary of Medical Terms; English, French, and German." London: J. and A. Churchill. 1907. Price 8*s.* net. "Pocket Medical Dictionary in Eight Languages (English, German, French, Italian, Japanese, Russian, Spanish, Hungarian)." Edited by Dr. J. Meyer, Berlin, in collaboration with Dr. D. O'C. Finigan. 1909. London: W. Lockwood and Co., 56, Charing Cross-road; and Urban and Schwarzenberg, Berlin and Vienna. 20*s.* "'First-Aid' Vocabulary in English, French, and German." By S. Osborn, F.R.C.S., and Albert M. Oppenheimer. 1908. Polyglot Printing Company, Limited, 13, Garlick-hill, Queen Victoria-street, London, E.C. (Booklet issued on the occasion of the First International "First-Aid" Congress.) "Terminologia Medica Polyglotta." Compiled by the late Theodore Maxwell, M.D. Camb. 1890. 16*s.* London: J. and A. Churchill. "Dictionary of Medical Terms." Part I., English-French, 5*s.* net; Part II., French-English, 4*s.* net; or two volumes in one, cloth, 7*s.* 6*d.* net. By H. De Meric. London: Baillière, Tindall, and Cox.

L.R.C.P.—We should advise anyone preparing for the M.R.C.P. Lond. to take a good general text-book of medicine, such as Osler's "Principles and Practice," Taylor's "Practice of Medicine," or any other text-book of similar range, and to work steadily through it, at the same time referring to monographs on special subjects: for example, Powell and Hartley's "Diseases of the Lungs," Rolleston's "Diseases of the Liver, Gall-bladder, and Bile-ducts," and so on. As an alternative, he might refer to the articles on special subjects in which he found the text-book insufficient (for example, on nervous diseases) in some large work of reference such as "Allbutt and Rolleston" or "Osler and McCrae." He should also read a small text-book on public health, keep an eye on current medical literature, and read some simple medical Latin, such as Celsus or Sydenham. He is also expected to translate a small passage from either Greek, German, or French, as well as Latin.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

The following magazines, journals, &c., have been received:—Edinburgh Medical Journal, St. Bartholomew's Hospital Medical Journal, Medical Review, Journal of the Royal Sanitary Institute, Ophthalmoscope, Birmingham Medical Review, Temperance Chronicle, St. Thomas's Hospital Gazette, Guy's Hospital Gazette, Hospital Assistant, Review of Neurology and Psychiatry, Tropical Diseases Bulletin, Archives Générales de Médecine, Practitioner, Annali dell' Istituto Maragliano, Philippine Journal of Science, Public Health.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Eye Department.

TUESDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), London Hospital, Mile End-road, E

Demonstrations in Clinical Medicine:—

MONDAY.—2.15 P.M., Dr. Wall: Pulmonary Tuberculosis. (Clinical Theatre.)

TUESDAY.—2.15 P.M., Dr. Grünbaum: Diseases of the Blood. (Clinical Theatre.)

WEDNESDAY.—2.15 P.M., Dr. Miller: Abdominal Diseases. (Out-patient Department.)

THURSDAY.—2.15 P.M., Dr. Thompson: Diseases of the Nervous System. (Clinical Theatre.)

FRIDAY.—2.15 P.M., Dr. L. Smith: Common Cardiac Conditions. (Clinical Theatre.)

SATURDAY.—10.15 A.M., Dr. Hutchison: Demonstrations on Selected Cases. (Wards or Clinical Theatre.)

Demonstrations on Selected Surgical Cases and on Cases of Interest in the Wards of the Hospital:—

MONDAY.—2 P.M., Mr. Milne.

TUESDAY.—2 P.M., Mr. Lett.

WEDNESDAY.—2 P.M., Mr. Howard.

THURSDAY.—2 P.M., Mr. Warren.

FRIDAY.—2 P.M., Mr. Walton.

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THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

" 15th–Oct. 15th (Berne).—Swiss National Exhibition.

May–October (London, Shepherd's Bush).—Anglo-American Exposition.

July–September (Australia).—Eighty-fourth Annual Meeting of the British Association for the Advancement of Science. (August 8th to 12th at Adelaide, August 13th to 19th at Melbourne, August 20th to 26th at Sydney, August 27th to Sept. 1st at Brisbane).

Aug. 2nd–10th (Paris).—Tenth Congress of Esperantists.

" 3rd–8th (London).—Sixth International Dental Congress.

" 29th–Sept. 14th (Toronto).—Canadian National Exhibition.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1914, which was completed with the issue of June 27th, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 5th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 30	30·04	N.	...	112	69	53	51	56	Fine
" 31	30·07	S.	...	103	70	56	59	62	Fine
Aug. 1	29·19	S.W.	0·27	122	78	62	62	67	Cloudy
" 2	29·63	S.W.	0·13	115	72	60	61	64	Cloudy
" 3	29·76	S.W.	..	109	70	57	59	60	Cloudy
" 4	29·72	S.W.	0·03	119	70	56	58	61	Cloudy
" 5	29·66	S.W.	...	116	68	58	58	60	Overcast

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